User guide

September 2024

homematic IP
Smart living, simply comfortable

2015
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Table of contents

1 CURRENT ISSUES

This user manual will inform you, on the one hand, about the technology, installation, commissioning and functioning of Homematic IP. On the other hand, you will find numerous answers to questions for everyone who is in home automation and Homematic IP in general. You will furthermore be provided with basic information on the topic of smart home and radio technology, giving you valuable tips for planning and the optimum operation of the Homematic IP System. Please find here an overview of the top current issues in the Homematic IP User Manual:

Version September 2024

- *Introduction of the Homematic IP Home Control Unit*

Version July 2024

- *Facelift for the Homematic IP App*

Version March 2024

- *Energy management*

Version December 2023

- *Adjustment of the system limits*

Release October 2023:

- *Hygrostat function for dehumidifier control*
- *Setting up light scenes and using dim-to-warm and dynamic daylight*

Release June 2023:

- *Lighting control with the DALI Gateway*
- *Measurement data acquisition in the Homematic IP system*

Release March 2023:

- *Device replacement using a wall remote control as an example*

Release November 2022:

- *Integration of Philips HUE lights into the Homematic IP system*
- *New room icons and backgrounds available for the home screen*

Release October 2022:

- *Extended solution assignment in the pairing process for Homematic IP devices*
- *Locking and unlocking the front door with the door lock drive via locking/unlocking times*
- *Individual function assignment of all buttons of the "Alarm" and "Access" key ring connections*
- *Additional double-click function for remote controls and wall-mount remote controls*

Release June 2022:

- *Activation of user rights and assignment of user roles in the Homematic IP installation*
- *Homematic IP voted market leader for the seventh time in a row*
- *Convenient garage door control possible via widgets*
- *Extension of the device limits in the Homematic IP system*

Version May 2022:

- *Smart garage door control possible via Amazon Alexa and Google Assistant*
- *Convenient control of the door lock drive, the light and the garage door drive possible via the keypad*

Release April 2022:

- *Convenient control of the door lock drive possible via buttons, contact interfaces and input modules*
- *Automatic restoration of the last profile status after restarting the device*
- *New procedure for pairing Homematic IP and Amazon Alexa*

2 INTRODUCTION

2.1 What is a smart home?

A **smart home** offers automation of recurring day-to-day operations and tasks in houses or flats: While using an appropriate system, different (technical) devices and functionalities can be connected within one household in order to control them as comfortably as possible and for the automation of recurring tasks.

An intelligent home control system makes your house a smart home – literally an "intelligent house". It increases the security in your living environment, helps to save precious energy and increases the personal living comfort. A climate control solution for heating control can, for example, reduce your costs for heating by up to 33% without any loss of comfort, bringing you considerable cost savings immediately. With comfortable light control you can create a cosy atmosphere at the push of a button. Alarm systems, automated shutter control, networked door and window contacts, smoke alarms and motion sensors protect your home.

To enable control also while being out of the house, modern Smart Home systems are connected to the Internet. With an active Internet connection, you can access the system, control devices or request information about devices or states from a PC or with a smartphone app at any time and almost every place.

On the one hand, a main requirement to a home control system is the security concerning unauthorised access from the outside. On the other hand, the used technology should function reliably. Finally, the system must offer intuitive and user-friendly installation and operation. Also, easy expansion possibilities are an important factor. With Homematic IP, eQ-3 has developed a system that fulfils all these requirements.

In the following pages, you will find detailed information on Homematic IP in general, for start-up and for the control of your system.

2.2 The eQ-3 group

On the smart home market, eQ-3 counts among the innovation and technology leaders, and it is considered a pioneer especially in the home control area. In confirmation of this, eQ-3 was elected - for the seventh time running - the European market leader[1]by Berg Insight, the renowned Swedish market research institute, in 2022.
With its own brands and OEM products, eQ-3 has a 40% share of the installed base of all whole-home systems in Europe. Moreover, the manufacturer has more than 200 product types and thus the broadest portfolio in the smart home sector industry-wide. More than 3 million households were equipped to date with over 50 million radio solutions.

eQ-3: Sister company of ELV

eQ-3 was founded in 2007 as a sister company of ELV Elektronik AG, a Europe-wide electronics mail order company and special interest publisher. The ELV/eQ-3 group is 100% family owned. ELV launched the first microprocessor-controlled timer with four separately switchable sockets in autumn, 1979. The group of companies can therefore look back on over 40 years of experience in the home control sector.

Homematic IP revolutionises the smart home market

in 2015, eQ-3 revolutionised the market with the wireless plug-and-play solution, Homematic IP. The company's aim is to use intelligent home automation to raise well-being within your own four walls to a new level, increase comfort and security and save energy at the same time. The user-orientated smart home system is extremely robust, reliable and has been recognised as particularly "user-friendly" by the German Stiftung Warentest consumer association. So far, Homematic IP has achieved eight Stiftung Warentest test victories since 2017.

As the successor to the tried-and-tested Homematic system, Homematic IP is based on the IPv6 protocol.
Once the Homematic IP Access Point - the centrepiece of the system - has been set up, Homematic IP can be easily programmed and controlled using the Homematic IP Cloud via the free Homematic IP App. This is possible without having to set up a user account or to enter user data. The system has also been certified by the VDE Testing and Certification Institute.

The local intelligence of the Homematic IP devices ensures that the most important functions are retained even in the event of an Internet connection breakdown. Homematic IP is secure, can be combined in a variety of ways and covers the most diverse areas of home automation: now more than 80 devices in the fields of climate control, light and shade, security and alarms, access. and weather and the environment.

Naturally, Homematic IP also supports the integration of third-party systems, therefore providing an open platform. Homematic IP makes it particularly easy to get started with your Smart Home, but also enables complex applications at affordable prices. In addition, eQ-3 is the only provider to guarantee product and software availability until at least the end of 2030.

1 Smart Homes and Home Automation Study (04/2023) Berg Insight concerning "Whole Home" systems

3 OVERVIEW OF HOMEMATIC IP

Homematic IP helps turn your regular home quickly and easily into a smart home. The system will win you over, in particular, with its simplicity and reliability. In addition, Homematic IP is also set up and operated completely anonymously.
The constantly growing product range covers the fields of climate control, light and shade, security and alarms, access, weather and the environment, and energy management. The practical starter sets offer the easiest way to get started. They can be flexibly expanded at any time. The system is thus suitable for any application: whether new construction or renovation, your own house or a rental accommodation.
It is quick and easy to set up without any prior knowledge using the free Homematic IP Smartphone App and a Homematic IP Access Point or the Homematic IP Home Control Unit. The free of charge Cloud service enables control of the system via one or several smartphones – even while en route. Other operating options are directly available on Homematic IP equipment, via practical remote controls or by voice command via Amazon Alexa/Google Assistant.

The easiest way into the smart home – set up swiftly and intuitively

Homematic IP offers various possibilities for setting up a smart home. Whether a cloud solution, data backup in the home network, beginner or professional - Homematic IP offers the ideal solution for everyone.

The easiest and most economical way of starting into the smart home is the **Homematic IP Access Point**. As a gateway, it establishes the connection between the Homematic IP devices and the Homematic IP Cloud in which the setup and configuration of the system are stored anonymously – the only thing necessary is to record the IP addresses for technical reasons. The free Homematic IP smartphone app is available as the operating element to download for Android operating systems and iOS. The combination of cloud and app means smart home setup and operation is particularly swift, simple and secure.

The **Homematic IP Home Control Unit** represents the next development in the Homematic IP system, featuring maximum data security, an appealing app, and the option of control via the cloud and in the local WLAN.

Homematic IP builds on the strengths of Homematic, implements IPv6 – the next generation Internet protocol – in each device and therefore offers a solution tailored to the Internet of Things (IoT). thanks to the open platform, the solution can be flexibly expanded at any time –
All products communicate via the robust and reliable 868 MHz Homematic IP wireless protocol. There are no interferences caused by WLAN, Bluetooth or other wireless standards operating within the 2.4 GHz frequency band.

Anonymity for maximum data protection

Your home is the most crucial private area. This is where you want to feel not only at ease and secure but safe as well. Accordingly, the decision for a smart home should certainly not come at the cost of any compromises in the areas of data protection and security.
Homematic IP can also be relied upon at this point. Because your privacy is already protected in a first step: No personal data are queried or recorded for the system setup – aside from the technically necessary IP address. Not only the setup, but also the operation is completely anonymous. Moreover, all data saved in the Homematic IP Cloud are provided on servers in Germany and are thus subject to the German and European data protection guidelines. Homematic IP is the only smart home system whose protocol, IT and data security has been certified by VDE.

In addition to the security of your data, the transmission security also ranks first. The communication of Homematic IP is secure and cannot be manipulated. Any reading or changing of data or other kinds of attack are impossible. Approved procedures are used for it which are also applied in online banking.

Offline operation – direct communication of devices without the internet

"A cloud-based smart home does not work without the internet" – that's just one of the innumerable prejudices concerning smart home systems, and for some providers, this might even be true. Homematic IP proves just the opposite: Owing to the use of the IPv6 protocol, every Homematic IP device has its own IPv6 address for communication within the system. Thus, storage of information and device status is enabled directly in the devices themselves – without use of the cloud. Such direct communication among themselves results in a high fail safety and very low latencies, thus remarkably fast execution of commands.
While an internet connection is required for the setup and control, the basic functions are working offline anytime. This comprises the direct operation on the devices (for example, to switch on the light), the execution of heating, time and shading schedules, as well as local alarms in the security area.

Homematic IP received several awards already

Homematic IP is convincing in every respect and also scores all around the important security standards. Homematic IP is the only smart home system whose protocol, IT and data security has been certified by VDE. The tests cover not only the overall system, but also the access point, the backend version, the latest iOS and Android app versions, the wireless and wired protocol and the Wired access point in detail.
In examinations by the German product testing foundation 'Stiftung Warentest', Homematic IP products also achieved time and again top marks in the tests. These products include, among others, various radiator thermostats.

Yet more possibilities thanks to open interfaces

Homematic IP covers many user requirements. Moreover, the system can be operated with Amazon Alexa and Google Assistant which not only enables comfortable voice control, but also the preparation of individual, multi-vendor scenarios.

3.1 Application areas

Room climate

Homematic IP offers demand-based control of radiators room-by-room in the entire house, enabling increased living comfort and energy savings of up to 33 %. The Homematic IP Window / Door Contact detects open windows and doors and automatically turns down the heating during ventilation. In addition, efficient floor heating control that offers operation via app can be realised with Homematic IP. The system detects the required heating demand for individual rooms and – unlike conventional heating circuit control systems – intelligently circulates the hot water into the different heating zones. This provides load balancing and efficient energy distribution thanks to the continuous flow of heating water. The room temperature can be regulated via radiator thermostats, an installed wall thermostat or simply via app. Also, individual heating schedules can be created with Homematic IP. Afterwards, your heating is controlled automatically and makes everyday life easier. However, you can still react flexibly to changed conditions and adjust the desired temperature according to your needs.

Security and alarms

No movement goes unnoticed with Homematic IP security components. Our security and alarm products increase the protection against break-ins and the sense of security inside one's own four walls. In alarm mode, users are informed whenever windows and doors are opened. Our motion detectors enable reliable indoor and outdoor surveillance.
Just a quick glance at the app is all it takes to see that everything is as it should be at home. So you no longer need to worry about windows and doors being left open. And that even if you're thousands of miles away.
The alarm mode can be easily activated via app or Homematic IP Key Ring Remote Control. If the presence mode is activated, the system triggers an alarm as soon as windows or doors are opened unauthorised, for example. If the absence mode is activated, sensors for indoor areas like the motion detectors are additionally included. In the event of an alarm, an audio signal can be triggered via the Homematic IP Siren and a push notification can be sent to all registered smartphones. The event protocol provides an overview of all activities in your home at any time.

Access

With Homematic IP, you can easily make your front door smart and turn your smartphone into a digital key. The door can thus be opened at any time via the free smartphone app or via the practical remote control.
Thanks to configurable access authorizations, access to the smart home can be individually managed – regardless of the time of day or day of the week. The front door can only be opened when you want it to. Thus, for example, cleaners or carers can access the house only with a remote control and at specific times.
Is the front door really locked? Thanks to scheduled locking and unlocking, this question is moot. You can schedule the front door to lock automatically at any time you want (e.g. overnight). This not only increases the security of your smart home, but it also saves you from having to go and check the front door. For those who want to play it safe, you can also schedule the front door – after each unlocking action – to automatically relock the door immediately again.

Light and shade

Comfortable switching and dimming of lights creates a sense of well-being at your home. Thus, a comfortable atmosphere for TV evenings is created via the app as the ceiling light is dimmed to a desired brightness level while the floor lamp is switched on. Also, the sense of security is increased with an illuminated driveway or house façade in the evening.
Shutters and blinds darken rooms; they create a sense of privacy and increase security. With our shutter and blind actuators, the window coverings can be set up with just a few turns of the hand via the Homematic IP app. Afterwards, they can be raised or lowered automatically.
The actuators are conveniently controlled via individual week schedules that also factor in sunrise and sunset. Furthermore, active shutters and blinds make the home look inhabited even if you are not at home. In addition to the anti-burglary effect of shutters, our solution thus actively increases security. Another advantage: In case of increased room temperatures due to strong sunlight, shutters or blinds

are automatically lowered to prevent the rooms from heating up.
The Homematic IP blind actuators also allow the exact adjustment of the slats position of exterior and interior blinds. If necessary, awnings can also be integrated into the smart home using our products. The automatic storm protection avoids damage to shutters, interior blinds, or awnings during unfavourable weather conditions and thus raises or lowers the window coverings.

Weather & the environment

With the weather sensors, the Homematic IP smart home system is automatically adjusted to the particular weather condition. In connection with other Homematic IP devices, the sensors can automatically trigger commands for moving awnings, interior blinds or shutters up or down in case of certain weather conditions, providing active protection of your home. In this respect, users have almost unlimited possibilities for creating individual rules. Thus, it is possible for example, in case of strong sunlight and inactive security mode, that the awning is automatically extended to 80 % or that, with a previously defined rainfall volume, the drainage pump is activated for a certain period of time.

Energy management

Homematic IP's smart energy management solution allows you to keep track of your electricity and gas consumption at all times. You can use the recorded consumption data to identify power guzzlers with ease and run smart automations so you can have eco-friendly fun protecting the environment at the same time as saving energy, time and money.
With the Homematic IP Home Control Unit, it is also possible to monitor EEBUS devices.

3.2 Discover why Homematic IP is the first choice

The "Homematic IP" Smart Home system with more than 80 products and a wide range of functions fulfils every wish:

- **Simplicity**

  The entire solution can be intuitively set up and comfortably controlled via smartphone app. Single devices are configured by the Homematic IP cloud service. As the devices communicate via radio, they can be retrofitted into houses really easily and also expanded at any time.

- **Interference immunity**

  Homematic IP is based on the 868 MHz radio band. There is no interference whatsoever from WLAN, Bluetooth, video streaming or other users of 2.4 GHz.

- **Superior range**

  Reliable communication between Homematic IP devices is given also over a distance of a few 100 meters. Even for remote places, you need not worry about the functionality of your chosen smart home solution.

- **Uncompromising security**

  Already during installation of the system the communication of Homematic IP is secure and cannot be manipulated. During operation, all radio packages are encrypted and authenticated. Reading, changing or repeating data or other kind of attacks are impossible. Similar to online banking, the universally accepted AES-128 and CCM standards are used. The Homematic IP cloud operates exclusively on German servers. Homematic IP is the first smart home system for which VDE certified not only the IT and data security from smartphones via the cloud all the way to a gateway inside the house, but for which certification of security was also realised for the wireless protocol. The Homematic IP Home Control Unit provides the option of pairing the devices locally (in offline mode).

- **Battery operation**

  Homematic IP focusses on battery operated devices in order to enable smart home installations also in existing buildings. The products can be easily screwed on to radiators or stuck to walls. Thanks to the low energy consumption of the devices, batteries usually only need to be replaced every two years, or even less frequently.

- **Reliability**

  All Homematic IP products offer permanent bidirectional communication. This means that every radio command is confirmed by the addressed device. The current status of all devices can be clearly shown. Thanks to IPv6 , the system has a secure future and is optimally prepared for the internet of things.

- **Privacy**

  For setting up the system, no personal data has to be provided, except the IP address. The Homematic IP cloud is only operated on servers located in Germany. The operation does therefore comply with European and German privacy policies.
  Once the initial commissioning of the Homematic IP Home Control Unit has been completed, which must be performed online, you can operate the central control unit completely offline from then on. This ensures maximum data security

- **Experience**

  Homematic IP is the smart home solution and technology by eQ-3 AG. Based on long-term experience in developing wireless smart home products, eQ-3 has established itself as the European market leader[2] in home control.

2 according to Berg-Insight (04/2022). Installed base of whole-home devices.

3.3 Components of the Homematic IP system

3.3.1 Homematic IP devices

Please note that not all devices described in this document may be available in your country. If you have any questions, please contact your specialist or distribution partner.

The devices of the Homematic IP system are characterised by an attractive, uniform product design. Largely determinative were the main aspects of ergonomics and usability. This applies to the individual devices whose design and functional elements were reduced to the essentials, which significantly simplifies the operation.

*Detailed information about the individual Homematic IP devices can be found in the product datasheets of the devices, available for download at the website **www.homematic-ip.com**.*

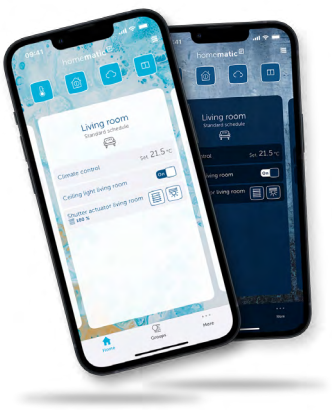
3.3.2 Homematic IP cloud

The **Homematic IP cloud** enables communication between the app and the access point as well as saving and managing of system relevant data. This encompasses e.g. information about which devices have been paired or connected, as well as details about the configuration.
Communication from a smartphone to the Homematic IP Home Control Unit works differently. In this case, the Homematic IP Cloud merely forwards the data, while the data itself remains on the Homematic IP Home Control Unit and the user retains complete data sovereignty.

All communication between the access point, cloud and app is encrypted. Entering private data is not necessary when using the smartphone app and the Homematic IP Cloud. The system is safely commissioned simply by scanning the QR code and pressing the button on the access point; only the IP addresses are needed for technical reasons.

3.3.3 Homematic IP smartphone app

Via the **Homematic IP smartphone app** you can set-up your smart home solution. The app offers step-by-step guidance through the entire installation process. All necessary links between the devices are established automatically.
After set-up, the app takes over the function of a central control unit, enabling you to control and configure your entire Homematic IP system. In addition, the app informs you about the current status of your devices at all times.



No matter where you are:
With the free smartphone app, you have everything in sight. Control your smart home at any time from any place.

Simply comfortable.

An active Internet connection is required on the end device and the access point so that the app can be used. With the Homematic IP Home Control Unit, it is possible to use the app in the local network, even without an Internet connection.

3.4 Operating principle of Homematic IP

Basically, the Homematic IP system consists of the following components:

- Homematic IP Home Control Unit (HmIP-HCU1)
- Homematic IP access point (HmIP-HAP)
- Homematic IP cloud
- the free Homematic IP smartphone app
- the single wireless components of the corresponding Homematic IP solution

3.4.1 Entry-level system with the Access Point

In connection with your router, the Homematic IP access point is the interface that connects your wireless Homematic IP components with the Internet.

The Homematic IP cloud takes over communication between the free smartphone app and the Homematic IP access point as well as saving and managing of data. This implies e.g. information, which devices have been connected, which devices belong to room group or details about the configuration.

All the data stored in the Homematic IP cloud is completely anonymous. That means that no conclusions can be drawn about the user's identity or the individual user behaviour – all that is necessary is to record the IP addresses for technical reasons. The identification of a Homematic IP user is – even theoretically – only possible as part of a criminal prosecution and based on a court order.

The Homematic IP smartphone app – together with the *cloud* and the access point – enables the setup, programming and controlling of your smart home system. A scan function in the app makes integration of individual Homematic IP components into the system very easy by scanning the device QR code. To make sure that the system continues to run even in case of an internet failure, all necessary links among the devices are determined by the Homematic IP cloud service and created automatically. Thanks to direct links among the devices, it is ensured that the operation still continues even during an internet failure.

All communication between the access point, cloud and app is encrypted. Neither during nor after installation of the app, you will need to provide private data such as name, email address or mobile phone number.

3.4.2 System with the Homematic IP Home Control Unit

The Homematic IP Home Control Unit brings your Smart Home completely under your control. All components and data are stored in the Homematic IP Home Control Unit itself. This reduces dependence on the Internet. Nevertheless, it is possible to operate the Homematic IP Home Control Unit with the same app as the Homematic IP Access Point. The Homematic IP App enables you to conveniently commission, configure, program and control your Smart Home.

4 HOME CONTROL VIA WIRELESS TECHNOLOGY

4.1 Wireless technology

Radio-based systems use wireless radio connections for controlling and communicating between the integrated devices.

Pros:

- **Flexibility:**
  One of the main advantages of a radio-based system is the almost unlimited flexibility. As no cables have to be laid, these systems can also be installed subsequently without great effort and can also be easily removed if required. If the housing situation changes, the existing system can be easily adjusted. In addition, wireless systems are ideal if you plan to combine many different components with each other. At the same time, multiple actions can be triggered and entire scenarios can be realised at the push of a button. For example, you come home in the evening with your car and open the garage door by pushing a button on your key ring remote control. The light intensity of the garden lights is increased and the way to the entrance will be illuminated. On the way to your house, the radiator thermostat in your living room has already been adjusted to your individual comfort temperature.
- **Security:**
  There are great differences between the radio systems in terms of security aspects. With encrypted authorization checks of the wireless commands (authentication), unauthorised interference from third-parties is practically impossible with Homematic and Homematic IP. Homematic IP is the first smart home system for which VDE certified not only the IT and data security from smartphones via the cloud all the way to a gateway inside the house, but for which certification of security was also realised for the wireless protocol.
- **Low energy consumption:**
  Wireless devices are characterized by low stand-by consumption.
- **Easy to install:**
  You can easily install battery-operated wireless devices by yourself.

Cons:

- **Interferences caused by other systems:**
  Depending on the radio frequency used, the communication between the wireless devices can be interfered by other radio systems. This becomes particularly problematic, if the radio system works on the same frequency like WLAN routers, Bluetooth devices or video and audio streaming systems. Homematic IP works on a frequency band that is insensitive to influences by these systems.
- **Wireless range:**
  Wireless devices have a limited range. But, however, it is sufficient for most situations in private households. If the wireless range is insufficient, it can be optimised with Homematic IP using the routing function of mains-powered Homematic IP devices (range extension). Further information on this can be found in section *"Range extension" on page 18*.
- **Changing the batteries:**
  Depending on the device and use, the batteries of battery operated devices have to be replaced at different time intervals (1-5 years). Often, battery operation is less expensive than stand-by operation of e.g. powerline adapters.

Please note the following when using rechargeable batteries in Homematic IP devices: Due to the significantly different discharge curves and operating voltages depending on the battery type, the timely detection of a low battery level cannot be guaranteed. In addition, rechargeable batteries have a significantly shorter cycle time per charge in the device compared to alkaline batteries due to their higher self-discharge rate and lower capacity. We therefore recommend using alkaline batteries.

4.2 Homematic IP Advanced Routing

By extending the Homematic IP protocol with advanced routing, the Homematic IP system will become even more flexible.

The advantages of Homematic IP Advanced Routing

- ✓ Extension of the wireless range via additional access points to practically any arbitrarily sized buildings or in more remote living areas, such as e.g. the garden house
- ✓ Fail-safe direct links between wireless devices by tying in an additional access point.

4.2.1 Use of multiple access points

The access points act as routers and provide for maximum fail safety in the system and practically unlimited wireless range. If several access points are used in an installation, Homematic IP devices now automatically select the path with the best connection quality when sending commands or status information. This is advantageous, for example, for installations in larger buildings or on several floors. If the access point is placed on the ground floor for example, another access point may be used to expand the range for communication with devices on the upper floor or in the garden house.

Each installation can support a total of two access points (HmIP-HAP).

4.3 Wireless range

eQ-3 benefits from more than 30 years of experience in the field of wireless technology for smart home applications. Homematic IP is based on the same particularly effective and robust wireless technology like Homematic and has proven its market success with millions of devices.

The wireless range of Homematic IP exceeds the standard requirements of a typical installation. Depending on the device type, a wireless range between 150 and 400 meters in the open air can be reached. Experience shows that, in less than 1 % of the installations, repeaters are used to extend the wireless range.

Radio waves behave in a similar way as sound waves. They can penetrate walls and spread out in all directions. Similar to the volume of sound, the energy of radio waves decreases with distance. Thus, the range of radio waves is limited.

In practice, there are factors that can influence the radio signal in a positive and negative way, compared to the range in the open air.

*Information on the extension of the wireless range can be found in section **"Range extension" on page 18**.*

4.4 Range extension

The Homematic IP wireless components' open-air range of about 150 to 400 meters means they can generally communicate without interference even over considerable distances within buildings. However, it cannot be excluded that the range is impaired in case of larger buildings, unfavourable structural conditions or non-ideal placement of components.
To optimise the wireless range in these cases, Homematic IP basically offers two options.

- Range extension by an additional access point (HmIP-HAP)
- Range extension by pluggable switches or pluggable switches and meter, respectively

The Homematic IP Home Control Unit cannot be used to extend the range. Only one Homematic IP Home Control Unit can be integrated per installation.

4.4.1.1 Range extension via an additional access point

When using a range extender, the strength of the signal received by the devices from each access point is different. This means that it is no longer possible to determine exactly which access point has the best reception value (displayed in the device overview). However, Homematic IP Advanced Routing always ensures that all devices receive the best possible wireless coverage. If the wireless supply is still not sufficient for an operational device, the "" display appears in the device overview.

Wireless conditions can change over time. Only by repeatedly controlling the devices via the Homematic IP App and observing the reaction of the devices can conclusions be drawn about the wireless coverage quality.

Once the range extension has been set up and the functionality verified, the position of the Homematic IP components whose signals were to be strengthened, as well as the pluggable switches or, respectively, pluggable switches and meters, should not be changed any more if at all possible. In terms of combining multiple and different access points, a total of two access point types are supported per installation *(see Section "4.2 Homematic IP Advanced Routing" on page 18)*.

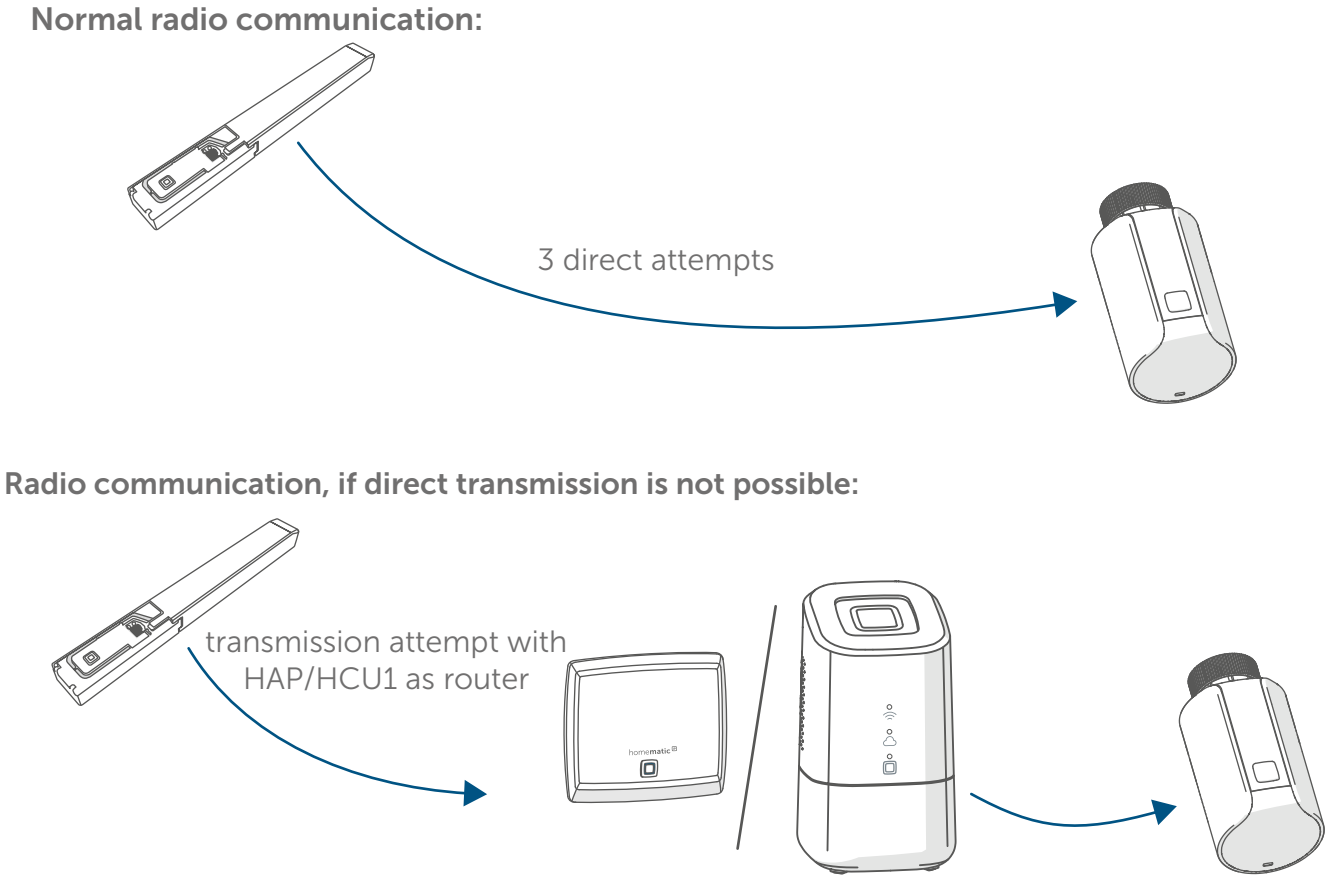


Figure 1: Range extension with an access point or the Homematic IP Home Control Unit

You can integrate an additional access point into your system simply via the "Pair device" function.

4.4.1.2 Range extension with Homematic IP Pluggable switches or pluggable switches and meters

We recommend adding an additional access point to extend the range.

In addition to switching connected loads with the "range extension" function, Homematic IP pluggable switches (HmIP-PS-2) or pluggable switches and meters (HmIP-PSM-2) can also be used, where necessary, to forward wireless commands. In this case, after three unsuccessful sending attempts by the sender to the receiver, the sending command is sent to the pluggable switch and meter acting as a router; and from there, it is further transmitted to the receiver.

No more that two pluggable switches or pluggable switches and meters that have been configured for extending the range can be used in series as routers.
After the range extension has been set up and the functionality been verified, the position of the Homematic IP components whose signal was to be strengthened, as well as the pluggable switches or, respectively, pluggable switches and meter should not be changed any more, if at all possible. Please keep this in mind especially for mobile devices like Homematic IP remote controls.

The pluggable switch or, respectively, the pluggable switch and meter can continue to be used for normal operation and switching of connected loads, even after activation of the range extension.

Activation of the range extension via the Homematic IP Pluggable Dimmer is not possible.

Proceed as follows to activate the range extension:

- Tap on the main menu symbol "... More" and there on „Overview of devices".
- In the overview of devices, select an installed Homematic IP Pluggable Switch or Homematic IP Pluggable Switch and Meter.
- Tap on "Range extension".
- In the following screen tap on "Activate". By tapping on "Done", the range extension will be activated.

Only activate the range extension if it is really required to avoid any unnecessary routing or radio traffic. You can deactivate the range extension again via the app at any time.

5 SETTING UP THE HOMEMATIC IP SYSTEM

The app function descriptions are based on an iPhone. The app supports all system-related operating motions for iOS and Android devices (swipe from right to left for iOS, tap and hold for Android).

The different operating functions for iOS and Android can be seen in various areas of the Homematic IP App, for example when renaming and deleting devices in the device overview or when copying heating profiles.

The description of system settings for Android smartphones is explained in this document using a Samsung Galaxy smartphone as an example. Please note that the terms used by other manufacturers may differ.

5.1 First steps

You can easily and intuitively set up your Homematic IP installation using the smartphone app "Homematic IP"; this was developed exclusively for the configuration and control of the Homematic IP smart home system. Individual Homematic IP devices are started in operation as presented in the respective operating instructions.
In just a few steps, your system is already installed:

- ✓ Check the system prerequisites.
- ✓ Install the free smartphone app.
- ✓ Set up the access point.
- ✓ Register the access point to the server.

You can now pair by smartphone app all Homematic IP devices you want to use in your installation; you can subsequently configure your system.

5.1.1 System requirements

For setting up the system, you will need the following components:

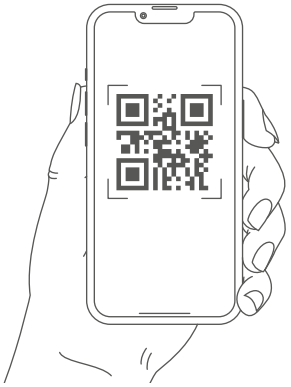
- Homematic IP Access Point for wireless components
- Smartphone with current Android or iOS version
- Router with active internet connection

5.1.2 Download the free app

The free app can be downloaded from the Google Play Store (for Android smartphones) and from the App store (for iPhones) directly to your smartphone.

- Start the Homematic IP app on your smartphone.
- Confirm the General Terms of Use and the Privacy Policy by clicking the "Agree" button.

Download on the App Store



GET IT ON Google Play

5.1.3 Set up your control unit or access point

A step-by-step guide to setting up a Homematic IP system using a *Homematic IP Home Control Unit* (HmIP-HCU1) or *Homematic IP Access Point* (HmIP-HAP) can be found in the relevant operating manual.

5.1.4 Adding a new smartphone

In order to add a new smartphone to an existing installation, proceed as described in the following. Please note that the new smartphone must be close to the access point.

- Install the Homematic IP app on your smartphone.
- Open the app; follow the instructions. As soon as the app instructs you to, please scan the QR code of the access point and press the system button.
- The already installed system is displayed on the new smartphone.
- You are now assigned to the "Restricted user" user role. To obtain a higher authorisation level, you must contact an installation administrator.

Further information on user management and user roles can be found in section *(see Section "6.1.4 Managing user rights" on page 51)*

If you start up a new smartphone and use a backup for restoring your smartphone profile, the Homematic IP app must first be uninstalled and subsequently reinstalled. The data of your Homematic IP system do not get lost and, after new installation of the app and a renewed registration with the access point, they will be restored.

5.1.5 Deleting a smartphone from the installation

If you want to delete a smartphone from your installation and are assigned the "Administrator" user role, proceed as follows:

- Tap on the main menu symbol "... More" at bottom right on the home screen, and there on "Settings".
- Tap on "User management".
- Tap on "User overview" to view the list of all linked smartphones.
- Swipe from right to left in the area of the corresponding smartphone and tap on "🗑".
- Confirm the security question.

After deleting the smartphone, the user can no longer access the app of the Homematic IP system.

5.2 System and LED flashing behaviour

Almost all Homematic IP devices are equipped with a system button with the Homematic IP system.

This enables execution of system functions, for example restoring of factory settings (reset) or restart of the pairing procedure. For single-channel actuators like the Homematic IP Pluggable Switch it is also possible to change the switching status (on/off) of the device via the system button.

In its function as system button it is used for reset as well as for manual pairing of Homematic IP devices.
In its function as device LED it works as status display as well as indication of system states using different flashing sequences, e.g. for successful transmission of a new setpoint temperature.

Pairing:

After inserting the batteries or switching on the power supply, the pairing mode of the Homematic IP devices is started automatically. The device LED flashes orange every 10 seconds - as long as the pairing partner has been found or the pairing time of 3 minutes has passed. The pairing mode can be restarted easily by briefly pressing the system button on the device once.

Normal operation:

In normal operation, transmission of a command (e.g. at the wall-mount remote control) is displayed by an orange flashing signal. If the command has been successfully executed by the receiver, this will be displayed by the device LED by shortly flashing green. If the transmission failed, this will be displayed by the device LED shortly flashing red.

Battery status:

If the battery load of a Homematic IP device is low, this will previously be indicated. In this case, the device LED one time shortly lights up orange after successful or failed transmission of a radio command.

You will find an overview with all flashing signals of all Homematic IP devices in the appendix *"Overview flashing behaviour of Homematic IP devices" on page 160*. Furthermore, each device has a device-specific flashing behaviour. This especially applies for the access point. For further information, please refer to the manual of the corresponding device.

5.3 Homematic IP app

App version 3.x.x gives the Homematic IP Smartphone App a new and modern look. In addition, for the first time you now have the option of installing and actively using our app not only on your smartphone, but also on tablets and smart watches. In addition to the new visual appearance, a number of new functions have been added:

Dynamic font size:

You can adjust the font size of the system in the settings of your smartphone. The font size setting will then be adopted accordingly in the Homematic IP App, allowing you to customise the display *(see Section "5.3.1 Dynamic font size" on page 24)*.

Light mode/Dark mode

In addition to the dynamic font size, there is another feature that significantly changes the appearance of the Homematic IP app – the dark mode. Similar to the font size setting, dark mode is also a system setting on your smartphone. All of the app's content is customised and displayed with a dark appearance *(see Section "5.3.2 Light mode and dark mode" on page 25)*.

Group configuration

One change that does not affect the appearance of the app, but rather its use, is the revision for creating groups of all kinds. This customisation makes it even easier for you to create and edit your groups *(see Section "7 Groups and time profiles" on page 59)*.

Basic tab

The Basic tab has been removed to tidy up the menu bar .

5.3.1 Dynamic font size

Adjusting the font size on iOS devices

The font size setting can be found in the settings of your smartphone.
To change the assigned font size, proceed as follows:

- Open the settings.
- Open the "Display & Brightness" category.
- Tap on "Text Size"
- Drag the slider to the left or right to adjust the font size

You can also add this setting to the control centre of your device so that you can adjust the font size even more quickly.

Adjusting the font size on Android devices

The font size setting can be found in the settings of your smartphone.
To change the assigned font size, proceed as follows:

- Open the settings
- Open the "Display" category
- Tap on "Font size and style"
- Drag the slider to the left or right to adjust the font size

You can also add this setting to the pull-down menu on your device so that you can adjust the font size even more quickly.

5.3.2 Light mode and dark mode

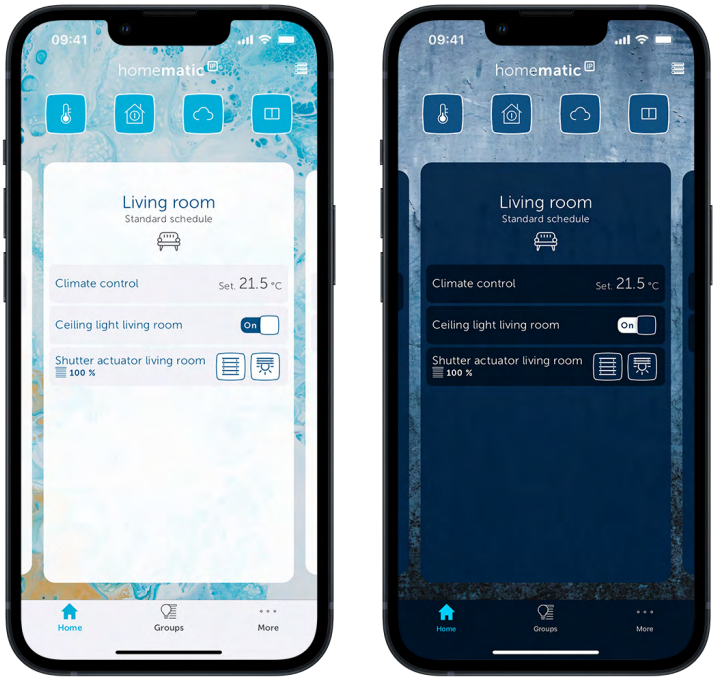


Figure 2:Home screen of the Homematic IP App in light mode and dark mode

Customising the appearance on iOS devices

You can customise the appearance in the settings of your smartphone.
To change the appearance, proceed as follows:

- Open the settings.
- Open the "Display & Brightness" category.
- Under "Appearance", tap on "Light" or "Dark".

You can also add this setting to the control centre of your device so that you can customise the appearance even more quickly.

Customising night mode on Android devices

The night mode setting can be found in the settings of your smartphone.
To change the appearance, proceed as follows:

- Open the settings.
- Open the "Display" category.
- Activate or deactivate "Night mode".

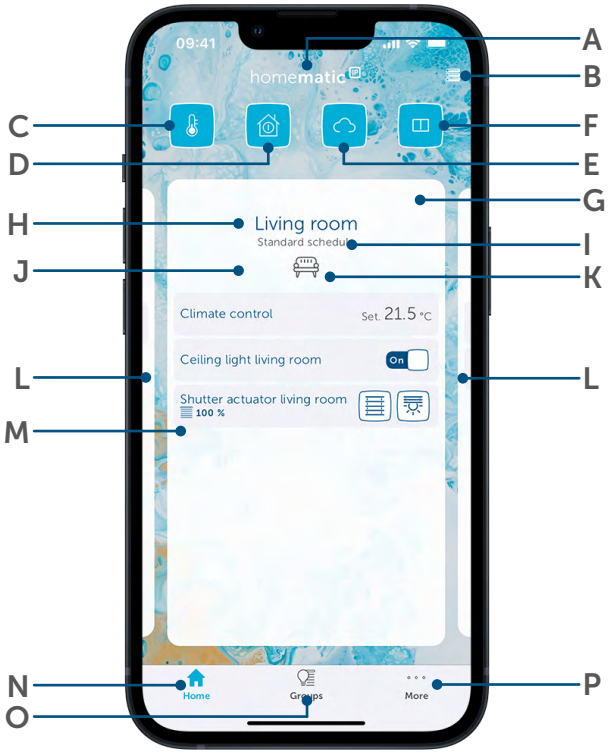
You can also add this setting to the pull-down menu on your device so that you can customise night mode even more quickly.

5.3.3 Home screen

Using the button top right in the home screen, you are able to select between a tile view and a list view.

5.3.3.1 Tile view

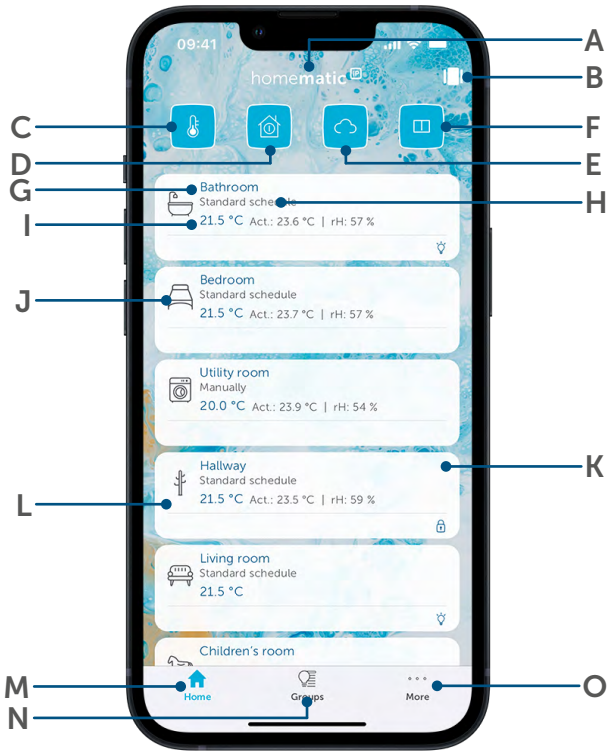
In the tile view, every room created is individually presented via a central tile which can be individually covered with up to 15 Home favourites. In this view, all essential information of a room are gathered at a glance. Using horizontal swipe gestures, you can swiftly and intuitively change from room to room.



A Optional: Multi Home administration (change to another Homematic IP system while using several access points)
B Button for changing between the tile and the list view
C Operating mode for heating schedules (eco, automatic, holiday)
D Alarm mode (disarmed, presence mode, absence mode)
E Local and weather information as well as display of the values of outside sensors
F Window status (display about opened windows)
G Warning and informational notes symbols
H Room name
I Current heating schedule
J Room tile
K Room icon (adjustable via room menu)
L Additional rooms (view by swiping to the left or right)
M Home favourites (individual adjustment for quick access to selected functions; only available in tile view)
N Home button for access to the home screen
O Groups (operation of switching and shading groups)
P Main menu

5.3.3.2 List view

The list view shows the rooms individually one below the other. Several rooms can be simultaneously clearly presented in the home screen. The nominal temperature is shown in rooms with radiator thermostats. If a wall thermostat is installed in a room, the currently measured actual temperature as well as the humidity are presented in addition to the nominal temperature. Moreover, if relevant information is available, warning and information symbols are shown in the pertinent room. Tap on the room tile to invoke other configuration settings for the room.



A Optional: Multi Home administration (change to another Homematic IP system while using several access points)
B Button for changing between the tile and the list view
C Operating mode for heating schedules (eco, automatic, holiday)
D Alarm mode (disarmed, presence mode, absence mode)
E Local and weather information as well as display of the values of outside sensors
F Window status (display about opened windows)
G Room name
H Current heating profile
I Display of nominal temperature in the room (when using a radiator thermostat) as well as actual temperature and humidity of the air (when using a wall thermostat)
J Room icon (adjustable via room menu)
K Status symbols as well as warning and information symbols
L Room tile
M Home button for access to the home screen
N Groups (operation of switching and shading groups)
O Main menu

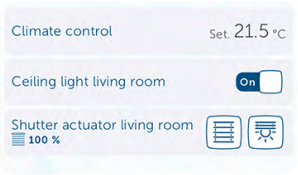
5.3.4 Room menu

Tapping on the room name (both in the tile and the list view) will open the room menu. Further adjustments can here be made for the pertinent room. The room menu is structured according to the solution areas available for the pertinent room (e.g. here room climate, light, shading, security). For every solution, different settings can be provided, such as e.g. selection of the heating schedule.

Figure 3:Room menu

It is possible – through the selection " ⋮ " – to provide configuration settings for the pertinent solution, to process Home favourites (only in the tile view), change the room icon, to rename the room, to sort anew the standard view in the room menu or to delete the room.
Tapping on "devices" will show all devices allocated to the selected room.

5.3.4.1 Determine individually the Home favourites



In the tile **view** you are able to individually determine your Home favourites for a room. Up to 15 home favourites can be specified per room. This enables the control of numerous room-specific functions (e.g. switching the lights or moving shutters up and down) directly above the tile view. To call up the configuration settings for the room, tap on the room name. You can then use **Edit - Edit home favourites** in the room menu to specify which information should be displayed in the respective tile on the home screen.
The selection of favourites differs depending on the installed system components. In the list view, it is not possible to determine home favourites.

5.3.4.2 Changing room icon

Depending on the selected room designation, Homematic IP allocates icons as a standard already for the various rooms. Via the menu item "Change room icon", you have the option to select, at any time, its own icon for the room tile in the home screen.

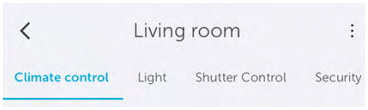
5.3.4.3 Rename room

Within the Homematic IP app, there are different possibilities to change the name of a room. Please proceed as follows in the room menu:

- Tap on the room name.
- Tap on " ⋮ " in the room menu.
- Tap on “Rename room”.
- Please enter a new name. Confirm the name with "OK".

Further options for changing a room name can be found in section *“Device overview” on page 42*.

5.3.4.4 Default view



You can determine under “ ⋮ ” – Default view which solution is to be shown first (room climate, light, shading, security or access) for the default view in the selected room when the room view is opened.

5.3.4.5 Delete room

Within the Homematic IP app, there are different possibilities to delete a room. To do this, use the "Delete room" menu item in the room menu under “ ⋮ ”.

If there are still devices assigned to a room, you first have to delete all devices in the device overview of the room.

Further options for deleting a room can be found in section *“Device overview” on page 42*.

5.3.5 Further setting options on the home screen

The user interface of the Homematic IP App features extensive options for customising the app even more precisely to individual requirements. The four icons at the top of the home screen can be used to control and call up higher-level functions and information that affect the entire Smart Home:

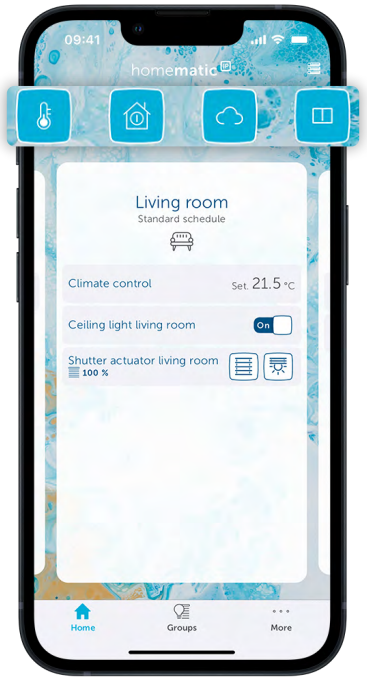


Figure 4: Operating modes on the home screen

operating mode:

Enables you to select the desired operating mode. Three options are available:

- Eco: You can activate eco mode and determine its duration here.
- Automatic: You can activate automatic mode for your climate control here. When automatic heating mode is active, the room climate is controlled in accordance with the individually configured heating and cooling profiles.
- Holiday: You can use this icon to activate holiday mode and determine its duration and temperature.

Alarm mode:

Provides information about the current alarm mode and enables the desired alarm mode to be activated directly from the home screen.

Location and weather information:

Enables direct access to detailed local weather information and displays the values from outdoor sensors.

Window status:

Shows which windows are open. This requires the installation of Homematic IP Window Sensors on the respective windows.

Four icons at the bottom of the screen provide direct access to all other app functions.

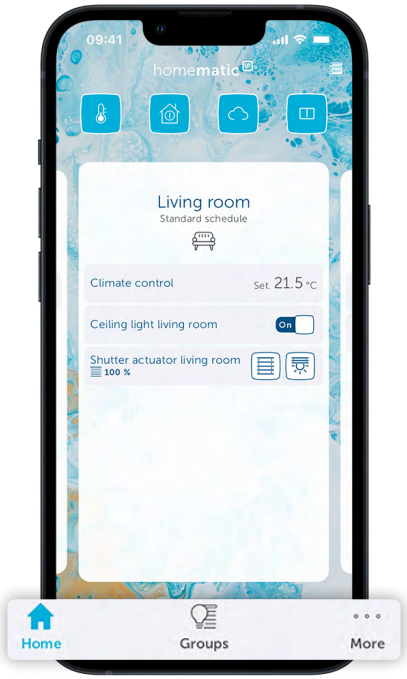


Figure 5: Basic functions on the home screen

Home:
The home icon enables you to go straight back to the home screen with a single touch.

Groups:
Takes you directly to the groups menu. Here you can control, set up, edit, sort and delete groups.

··· Main menu (...More):
You can access the app's main menu via the main menu icon at the bottom right of the screen.

5.3.5.1 Overview of symbols

In the device overview, as well as in parts on the home screen, certain information on the devices is indicated via symbols.

General and status symbols	
	Eco mode
	Cooling mode
	Party Mode
	Holiday mode
	Window open
	Window tilted
	Door locked
	Door unlocked/opened
	Garage door opened
	Garage door closed
	Garage door in ventilation position
	Light on
	Sunset
	Sunrise
	Shutter/blind moved down (from 1 % shutter level)
	A time schedule has been allocated to the device.
	Shutters/blind moves or, respectively, door lock drive is locked or unlocked
	Slat position
	Multi-channel display
	Ring topology (Wired)
	Star topology (Wired)

Warnings	
	Battery voltage low
	Water alarm
	Tamper message
	Motion detected
	Smoke alarm
Error messages	
	Radio interference
	Voltage supply faulty
	Bus connection faulty
	Connection to cloud faulty
	Connection to access point faulty

The device overview additionally shows to which solution a device was added. These are displayed via the blue icons on the right-hand side of the device list ( = climate control, = light and shade,  = security,  = access,  = weather and the environment,  = energy management).

5.3.6 Setup screen

After registration of the access point, the setup screen offers three options:

- Pair first device *(see Section "5.3.6.1 Pairing devices" on page 33)*
- Set weather location *(see Section "5.3.6.2 Location and weather information" on page 35)*
- Set administrator PIN *(see Section "6.1.4 Managing user rights" on page 51)*

5.3.6.1 Pairing devices

To integrate your Homematic IP devices into your smart home solution they must be registered to the access point and thus to the server as well. Your devices will only appear in the app and can only be set up and configured once they have been registered and "paired".

The order in which you add the several devices is optional for you. We do, however, recommend that you go from room to room to pair and install the devices one after the other and only to configure the devices once all of them have been paired.

The pairing procedure is identical for all Homematic IP devices:

- Tap on the main menu symbol "... More" at the bottom right of the home screen, and then on "Pair device".
- Via the app you will be asked to activate the device you want to add, i.e. to establish the power supply.
  Insert the batteries for battery operated devices or remove the insulation strip. Plug-in mains-powered devices into a socket.

As soon as the respective device is supplied with power it will appear in the app.

- Follow the instructions in the app. All devices of your Homematic IP system can be registered to the server either via scanning the QR code or entering the last four digits of the device number (SGTIN).

QR code and SGTIN can be found on the supplied device stickers and on the back of the access point. With battery-powered devices, you will additionally find the SGTIN in the battery compartment. Please keep the stickers in a safe place. You will find a suitable print template for sticking on and storing your QR code stickers in the download area of www.homematic-ip.com.

If one or more numbers have not been entered correctly, the last numeric keypad of the SGTIN appears in red. In this case, delete the numbers and correct your entry.

- Confirm the entry with "Continue".

- In the next step, assign the device you have just paired to one or more solutions (e.g. climate control, light and shade, security or access).
- Depending on the device, you have additional selection options that affect the function of the individual devices (e.g. solution: Security, function: 1. Switches the panic light 2. Activates alarm functions).

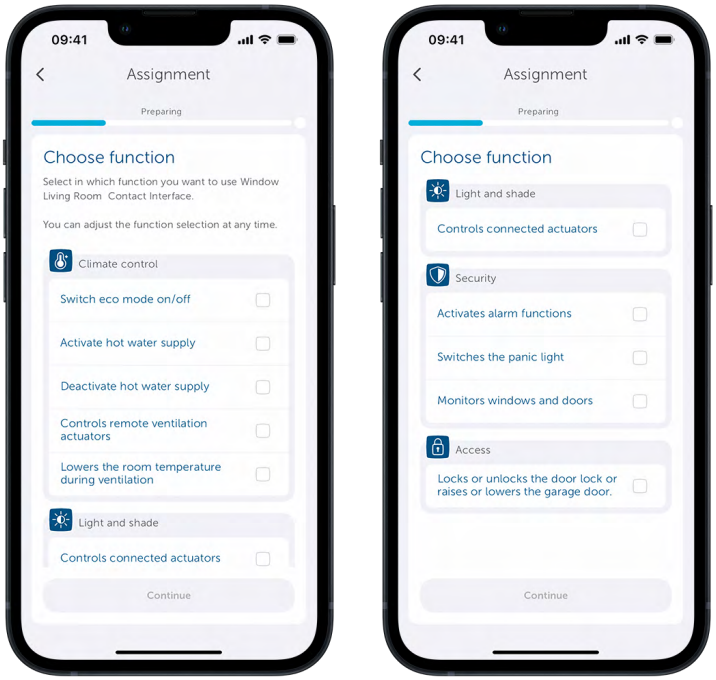


Figure 6: Solution assignment

Devices that can be used in one solution only, e.g. the Homematic IP Radiator Thermostat, are automatically allocated to a solution (e.g. climate control). In this case, the request for allocation is skipped. For devices that can be used in connection with more than one solution, such as the Homematic IP Window and Door Contact, you can select in which solutions (e.g. climate control and/or security) you want to use the device in the following step.

- Allocate the device to a **room** . Select an existing room or create a new room by tapping on the "+" icon.
- Assign a **name** for the device. You can optionally supplement the device name automatically generated by the system or assign a new name.

Select the designations for devices and rooms such that a unique and unambiguous allocation will be subsequently possible. Via the app, you have the opportunity to rename the devices and rooms at any time.

In the next step, the app will inform you that the device has been successfully paired. You are also provided with additional options depending on the device type and system configuration:

- If you would like to pair another device, tap on "Pair another device". The pairing process for another device starts.
- If you have already defined one or more groups, you can integrate the device into a group by tapping on "Add device to group". Simply follow the instructions in the app.
- If you have paired a device that can be assigned to a time profile (e.g. switching actuators and shutter actuators), you can assign the device to a time profile.
- If you do not wish to use any of the options provided, tap "Done".

When adding the following devices, the app offers you a list with all existing rooms. You can either select one of these rooms or enter the description for a new room with a tap on “New room”. The newly paired device automatically appears in the device overview of the app under the correspondingly selected room.

In the following chapters you will find detailed information about the configuration of the system using the Homematic IP app.

5.3.6.2 Location and weather information

Specify the location where your Homematic IP system is installed for the weather data and the use of the Astro function.

Depending on the smartphone, upon initial setup, the time zone is set and transmitted to the system as well as to the Homematic IP components. The changeover from summer to winter time is made automatically.

- Tap on "Determine weather location". In the search field, enter the name of the city or the postcode.
- Select the location for your weather data and confirm your selection with “✓”.

The location for weather data is also the location for the times of sunrise and sunset and must be stored, for example, to control shading elements.

The location and time zone can also be adjusted at a later date via Main menu, Settings, Location + time zone.

Once you have tapped on the weather icon, several pieces of location-based information relating to the weather are made available to you on the home screen of the Homematic IP App.
These include:

- the current outside temperature,
- the current sunrise time,
- the current sunset time,
- the current humidity,
- as well as the current wind velocity including the prevailing wind direction.

If you have installed a Homematic IP Light Sensor - outdoor, the current brightness is also displayed in lux.

Note on the HmIP-SWO-PL and HmIP-SWO-PR Weather Sensors: The rainfall amounts transmitted by the weather sensors are reset in the Homematic IP App every day at 7:00 am. The amount of rain displayed in the app is the amount of rain per day.

Figure 7: Weather data

The displayed weather data is collected by the app via the online service OpenWeatherMap and provides the data also for other functionalities like the automatic control of shutters, blinds and awnings. Alternatively, you can display the weather data measured by you Homematic IP weather sensors. Via the “Sort” button at the top right of the screen you can determine the weather view order. The temperature on the homescreen is collected by the data source that is sorted to position 1.

In the device settings of the weather sensor you can adjust further settings.

- In the menu, tap “Device overview” and select the weather sensor.
- In the next step, you can select the brightness threshold value for sunshine detection to adjust the brightness sensor to your surrounding (default value:) 3500). You can select the value between 0 and 100,000. The higher the brightness value, the stronger the brightness area in the outside area needs to be in order to be detected as ‘sunshine’.
- Via the measurement data filter you can select, how the values of the wind sensor are detected. The following options are available:

  Current: Sensor value at the transmission time of the wind velocity
  Minimum: Lowest wind value between two transmissions (approx. 3 minutes)
  Maximum: (Default): Greatest wind value between two transmissions (approx. 3 minutes) With this option, also wind gusts of wind are detected correctly.
  Average: Average value of the last 3 minutes

5.4 Widgets

You can easily add widgets to your smartphone screen for even faster and easier access to the Homematic IP system with the most important functions and devices.
Widgets are elements that you can operate with the touch of a finger. A widget creates an interface between your smartphone and the Homematic IP app. You can use the widget to conveniently control the desired functions in the app – without having to open the app itself.

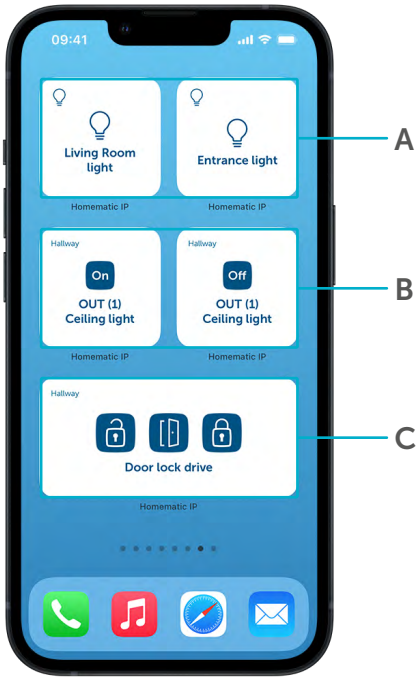


Figure 8: Homematic IP widgets: active and passive widgets

Homematic IP widgets are divided into “active” and “passive” widgets:

A You can use **active widgets** to control devices and groups in the system directly via your smartphone – without having to open the Homematic IP App. For example, you can use a widget to switch on a light via a switch actuator or lower a shutter.

B You can use **passive widgets** to go straight to a desired area in the Homematic IP App. For example, you can quickly access the menu item for controlling groups.

C For the **Homematic IP Door Lock Drive** and the **module for garage door drives**, all three control options are combined in a single widget.

Homematic IP widgets are available for iOS and Android. Check beforehand whether your smartphone’s operating system supports the use of widgets.

Homematic IP widgets are currently available for lighting control (devices/channels and groups), for shutter and blind control (devices/channels and groups) and for access control (door lock actuator and module for garage door actuator).

With Android operating systems, there is no differentiation between active and passive widgets.

To set up Homematic IP widgets on your smartphone, proceed as follows:

- From your smartphone's home screen, press and hold an existing widget or an empty area. The app icons will start to wiggle.

Figure 9: Creating widgets

- Tap the "+" icon at the top left to add a new widget.
- Enter "Homematic IP" in the search or select the app from the list that appears.
- Select the desired widget from the list. The following selection options are available:

Active widget for devices:
e.g. to control a light (switch on/off) via a switch actuator or a shutter (raise/ lower) via a shutter or blind actuator.

Passive widget for devices:
This takes you directly to the control (e.g. switch on/off or up/down) of an actuator in the app.

Active widget for groups:
e.g. to control several lights in a switching group or several shutters or blinds in a shutter group.

Passive widget for groups:
this takes you directly to the control of a switching or shutter group within the app.

Active widget for door lock actuator:
controls (locking, unlocking and opening) a door via a door lock actuator. The individual control elements for locking, unlocking and opening the door are combined in a single widget.

Garage door widget:
controls (opening, closing and ventilation position) a garage door via a module for garage door actuators. The individual control elements for opening and closing the door and moving it to the ventilation position are combined in a single widget.

Active widget for groups of garage door operators:
controls (opening, closing and ventilation position) a garage door group. The individual control elements for opening and closing the door and moving it to the ventilation position are combined in a single widget.

5.4.1 Active and passive widgets for devices

To create active or passive widgets for devices, proceed as follows:

Figure 10: Adding widgets for devices

- Tap on "Add widget" below the desired device widget. The widget is added directly to the home screen.
- Edit the widget or delete it when necessary using the "-" icon.
- Tap on the widget to configure it further.
- Under "Installation", select the desired Homematic IP installation from the list displayed.
- Select the room you want to configure.
- Then, within the room, select the device you want to create a widget for.
- Select the action (e.g. switch on or off) for the device.
- Tap in the empty area next to the configuration field to return to the home screen.
- Add more widgets via the "+" icon, or tap on "Done" to finish configuring the widgets.

For each widget for switching on a device, we recommend adding another widget for switching off the same device. On iOS, you always define a single action for each widget. With widgets on Android smartphones, a function (e.g. switching a light) can be switched on and off again via the same button (toggle). This function is available when you minimise the widget size.

c o r - *You can edit each widget or move it around the home screen by tapping and holding the responding widget.*

If you use devices with multiple channels, widgets can only control the channels that have been assigned to a light and shade solution in the app.

5.4.2 Active and passive widgets for groups

To create active or passive widgets for groups, proceed as follows:

Figure 11: Adding widgets for groups

- Tap on "Add widget" below the desired group widget. The widget is added directly to the home screen.
- Edit the widget or delete it when necessary using the "-" icon.
- Tap on the widget to configure it further.
- Under "Installation", select the desired Homematic IP installation from the list displayed.
- Select the group you want to control via the widget.
- Select the action (e.g. switch on or off) for the group.
- Tap in the empty area next to the configuration field to return to the home screen.
- Add more widgets via the "+" icon, or tap on "Done" to finish configuring the widgets.

For each widget for switching on a device, we recommend adding another widget for switching off the same device. On iOS, you always define a single action for each widget. With widgets on Android smartphones, a function (e.g. switching a light) can be switched on and off again via the same button (toggle). This function is available when you minimise the widget size.

You can edit each widget or move it around the home screen by tapping and holding the corresponding widget.

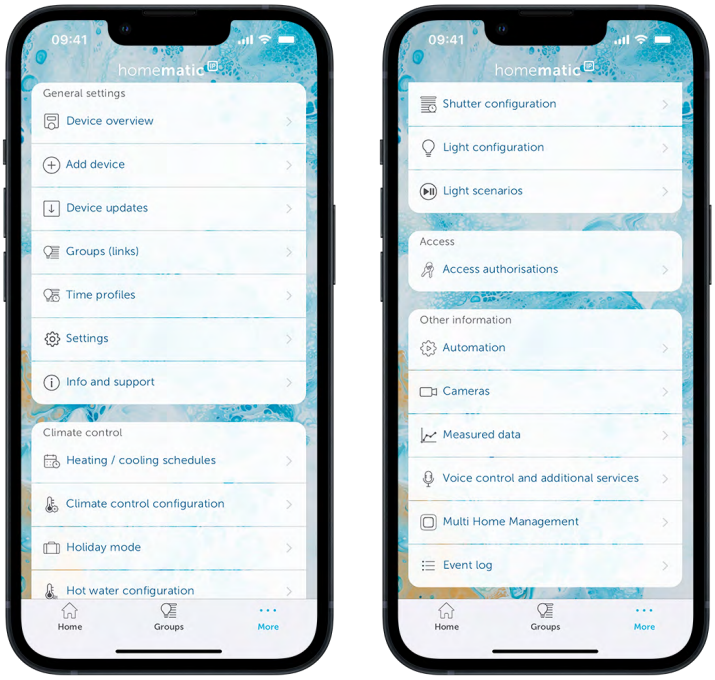
6 GENERAL CONFIGURATION OF THE SYSTEM

6.1 Main menu

In the main menu you can make the settings for your Homematic IP system.

- Tap on the main menu symbol "... More" on the bottom right in the home screen.

Depending on the configuration of the system, you will have the following options in the main menu:



"General settings"

- Device overview
- Pair device
- Device updates
- Groups (links)
- Time schedules
- Settings
- Info and help

Room climate

- Heating / cooling schedules
- Climate control configuration
- Holiday mode
- Warm water configuration

Security

- Alarm configuration
- Presence mode

Light and shade

- Shading configuration
- Light configuration
- Light scenarios

Access

- Access authorisations

Miscellaneous

- Automation
- Cameras
- Measured data
- Voice control and additional services
- Multi-home management
- Event protocol

Please note that only menu items are displayed for which devices are available in your system. If, for example, you are not using devices of the security solution, the menu item "Security" is not displayed.

6.1.1 Device overview

In the device over of your app you can manage your devices.

- Tap on the main menu symbol "... More" and there on „Overview of devices".

In this menu all added devices are clearly displayed room by room. Devices that have been paired but not yet assigned to a room appear on the home screen in a pop-up window.

All rooms with the corresponding devices follow in alphabetical order or in the order that you have defined in the settings menu item "Display of rooms".
In the default setting, all devices are listed. After tapping on "Filter" (iOS), you can filter the devices by individual rooms.

Adjusting device settings

The device overview provides the option of adjusting individual device settings. The configuration options are different from device to device. If you have activated the user rights, you must be assigned the "Administrator" user role and enter your administrator PIN to adjust the device settings.
In principle, it is possible to change the **assignment to a room** and the **name of the device** for all devices.

- For this, select a device in the overview of devices. Tap on the name of the device.
- The next window displays all the setting options that are possible for the respective device.
- Select the menu item "Allocation" to push the device into another room and to change the name.
- By swiping to the left in the device overview, you also have the option of renaming and deleting a device.

Depending on the type of device, the different possibilities of settings are differentiated. For example, for devices with a push button or a rotary knob, an **operating lock** can be activated or deactivated.

Devices for which the operating lock is activated can be operated only via the app, not, however, via the device itself.

Deactivation of the operating lock is possible only via the app.

Moreover, you can adjust e.g. a temperature offset for radiator thermostats to balance out temperature deviations. Should you operate a wall thermostat in a room, only the temperature offset is to apply which was adjusted with the wall thermostat. For window contacts, an individual message delay between 0 and 60 seconds can be defined.

A message delay can be useful if a window is opened only shortly without the heating to be turned down with it.

More detailed information on the individual device settings is provided at the relevant points throughout the user manual. Please take a look at our sections on the various possible uses of Homematic IP in the Smart Home.

Furthermore, the device overview as well as the homescreen of the app offer additional information, e.g. about the allocation of the device to a solution or if in a room with an installed window / door contact a window or door is opened. In rooms where a wall thermostat is included you can see at a glance the current room temperature and humidity.

In addition, after tapping on the device name via "ⓘ", you will find additional information for each device in the following order:

- Device name
- SGTIN: SGTIN indicates the individual device number of the device.
- Device type: Shows the short description of the device.
- Current firmware: Indicates the currently installed firmware version of the device.
- Update status: Here you will find information if your firmware is up to date or if a new firmware version is available for the device and a device update has to be performed.
- Connection quality: Shows the connection quality between access point and device with a bar graph.

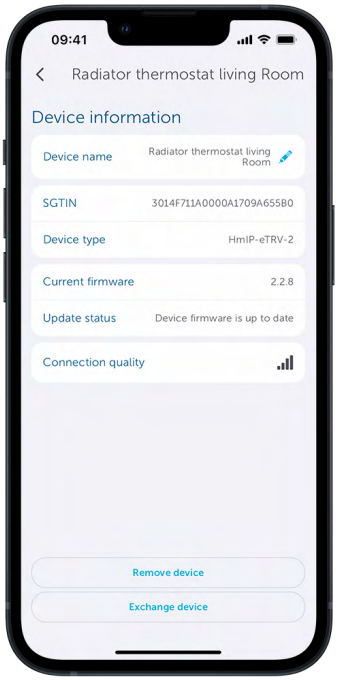


Figure 12: Overview of device information

6.1.1.1 Multi-channel view

The multi-channel view enables devices with multiple channels to be assigned to individual rooms and solutions and named, as well as a clear display in the app's device overview. This applies to multi-channel devices from Homematic IP such as floor heating actuators, contact interfaces - flush-mount, and multi-channel switching actuators.
After pairing multi-channel devices, the allocation of individual channels to rooms will be automatically queried.

The allocation of individual channels can be effected at any time via the display of the device overview:

- Tap on the main menu symbol "...More" and there on "Device overview".

For devices to which individual channels can be assigned to different rooms, the already assigned channels are already displayed in the device overview under the respective room. Examples of these types of devices include floor heating controllers, which frequently control heating circuits in different rooms. These channels are designated via the multi-channel icon “ ”.

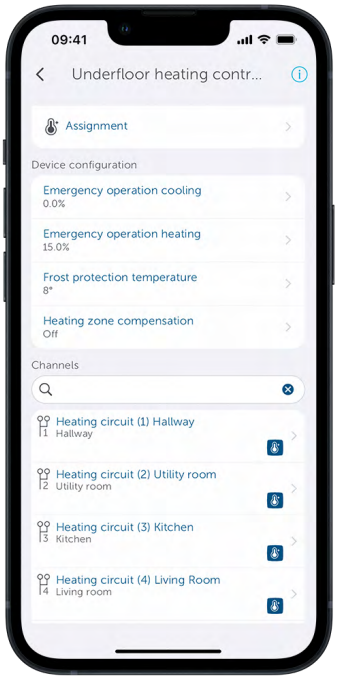


Figure 13: Screenshot device overview, multi-channel devices (1)

- By tapping on the device in the device overview, you will be taken to the multi-channel view in the "Channels" area of the "Device configuration" menu for multi-channel devices. The device and all associated channels are displayed here.

Unassigned channels are also displayed here, but greyed out. In the future, you can directly provide channel-specific configurations from the multi-channel view by selecting the desired channel.

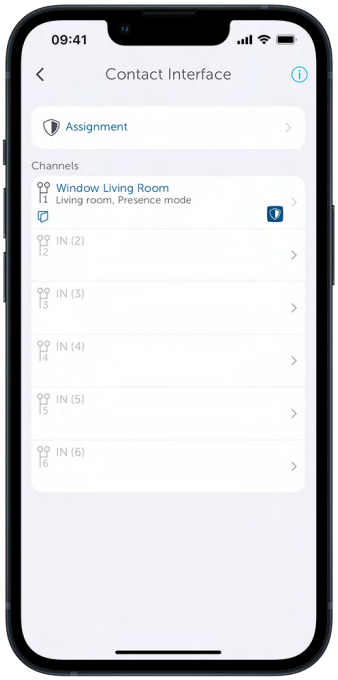


Figure 14: Screenshot device overview, multi-channel devices (2)

6.1.1.2 Configuring individual buttons, button pairs and the double-click function

As a standard, the buttons of Homematic IP remote controls and wall push buttons are defined as pairs of buttons. That means,using one button, you can switch on / dim up /power up another Homematic IP device, and via the second button of the pair of buttons, you can switch off /dim down /power down that device.
The predefined button pairs of remote controls and wall push buttons can also be easily split into individual buttons. This allows you to configure your smart home system even more individually and use the easy-to-use toggle function, for example, to switch devices on or off using just one button.
You also have the option of assigning buttons with the double-click function. This enables you to define a time window of 0.6 seconds, for example, in which a second button press can be made. An action is only triggered if the button is pressed a second time.

Once the toggle function has been activated, you can no longer assign the remote controls or wall-mount remote controls to the security or climate control solutions.

You can also use the toggle function with the Homematic IP Key Ring Remote Controls for access and alarm (HmIP-KRCK and HmIP-KRCA), provided you have reconfigured them as individual buttons.

The toggle function can be used with the Homematic IP Shutter and Blind Actuators (HmIP-FROLL, HmIP-FBL and HmIP-BBL-I). In this case, the toggle function only applies to the actuator itself, i.e. for raising and lowering the shutters or blinds.

In order to subdivide the pairs of buttons into individual buttons, please proceed as follows:

- Tap on the main menu symbol "...More" and there on "Device overview". Alternatively, you can also invoice the desired device via "Devices" in the room overview.
- Select the desired device from the list.
- Tap on "Configuration of pairs of buttons and individual buttons".

If you allocated the device or, respectively, the pair of buttons before already to a group, you cannot divide the pair of buttons into individual buttons. To this end, first delete the allocation of the pair of buttons to the corresponding group.

- Select whether you want to use the buttons of the device as individual buttons or as pairs of buttons.
- Tap on "Save" to conclude the configuration.

If you want to combine individual buttons into button pairs, the individual channels must be assigned to the same solution or to no solution.

If you defined the buttons as individual buttons, you can use the toggle function via the individual buttons to execute two functions (e. g. switching on and off) via one button. To be able to use the toggle function, please proceed as follows:

- In the home screen, tap on "Groups" and subsequently on "Processing".
- Create a new group by means of the + symbol.
- Select the type of the group to be created (e.g. "switching group" or "shading group").
- Select the devices or channels for the group and tap on “Done”.
- Via the following menu, you can determine the action under "Toggle" which is to be executed upon actuation of the button.
- Tap on "OK" to save the configuration.

If you have defined the buttons as individual buttons, you can use the double-click function via the individual buttons. To be able to use the double-click function, please proceed as follows:

- Tap on the main menu symbol "...More" and there on "Device overview". Alternatively, you can also invoice the desired device via "Devices" in the room overview.
- Select the desired device from the list.

- Tap the desired channel of a button and add it to a solution, e.g. light.
- Enter a name for the button and tap "Continue".
- Tap on "Done" if you do not want to create a device link.
- Tap on the "Double-click function" menu and select the desired double-click time, e.g. 0.6 seconds.
- Confirm your setting with "✓".

To disable the double-click function, proceed as follows:

- Tap on the main menu symbol "...More" and there on "Device overview". Alternatively, you can also invoice the desired device via "Devices" in the room overview.
- Select the desired device from the list.
- Tap on the desired channel of a button.
- Tap on the "Double-click function" menu and select "Off".
- Confirm your setting with "✓".

The double-click function is now deactivated. You can activate this at any time.

6.1.1.3 Renaming and deleting devices

All devices displayed in the device overview can be renamed or deleted here. If user rights are activated, you must be assigned to the "Administrator" user role.

Rename devices

- Select the device you want to rename, swipe from right to left and tap on "✎".
- Enter a new name into the text box. After tapping on "OK", the new name will be saved.

Deleting devices

- Select the device you want to delete, swipe from right to left and tap on "✎".
- Confirm by tapping on "Delete" that you really want to delete the device.

If you delete a device, the factory settings of the device have to be restored in order to pair it again and thus continue to use it. For further information, please refer to the user manual of the corresponding devices.

6.1.1.4 Replacing a device using the example of a 6-channel wall-mount remote control

- Tap on "More" on the home screen and then on "Device overview".
- When replacing a device, the new device may not already be paired.
- Select the device to be replaced (in this case, the 6-channel wall-mount remote control).
- Tap on “Information” at the top right and select "Exchange device".
- Device replacement is only supported by devices with more than 2 channels. If exchange is not possible, you will be notified accordingly.

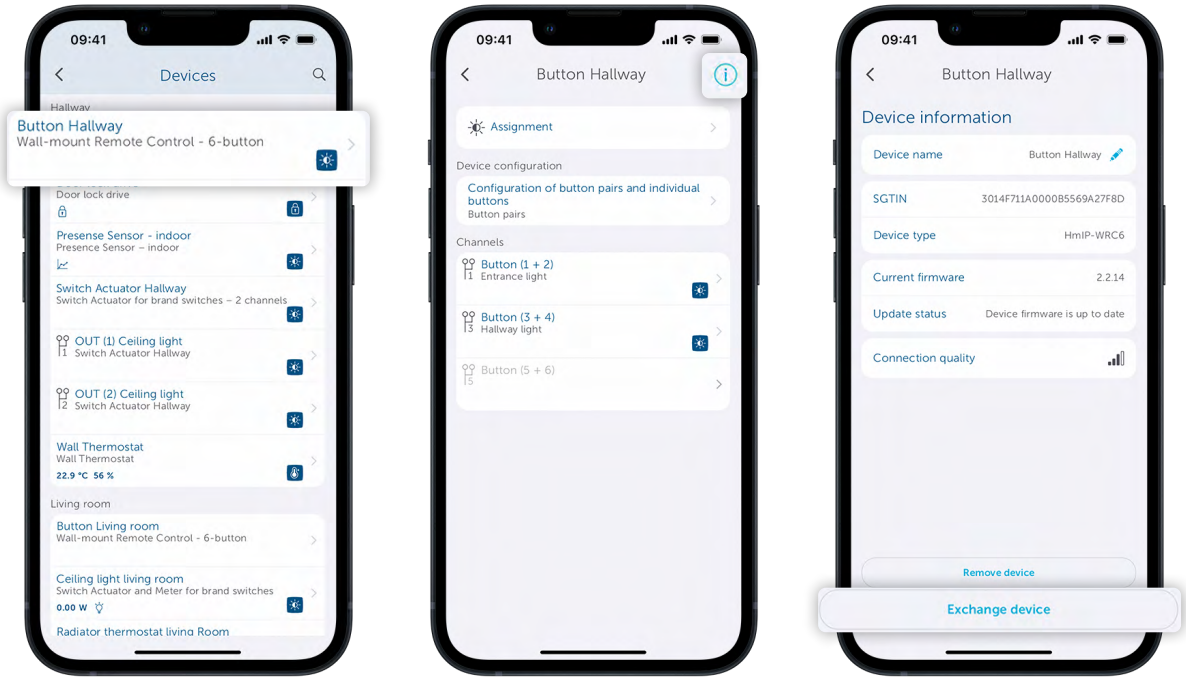


Figure 15: Select the device and start the exchange.

The device is prepared for exchange. Check whether the SGTIN is displaying the correct product.

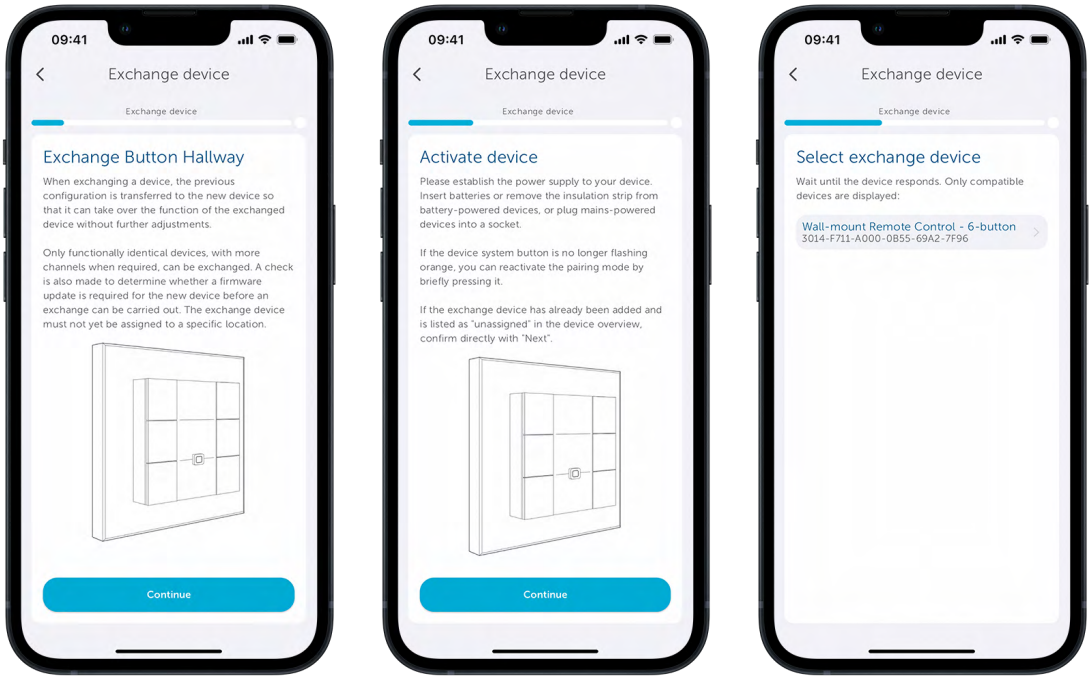


Figure 16: Activate the exchange device.

- Tap on "Perform exchange" to confirm the device exchange. You are then logged into the system. The device exchange was successful and can be completed.

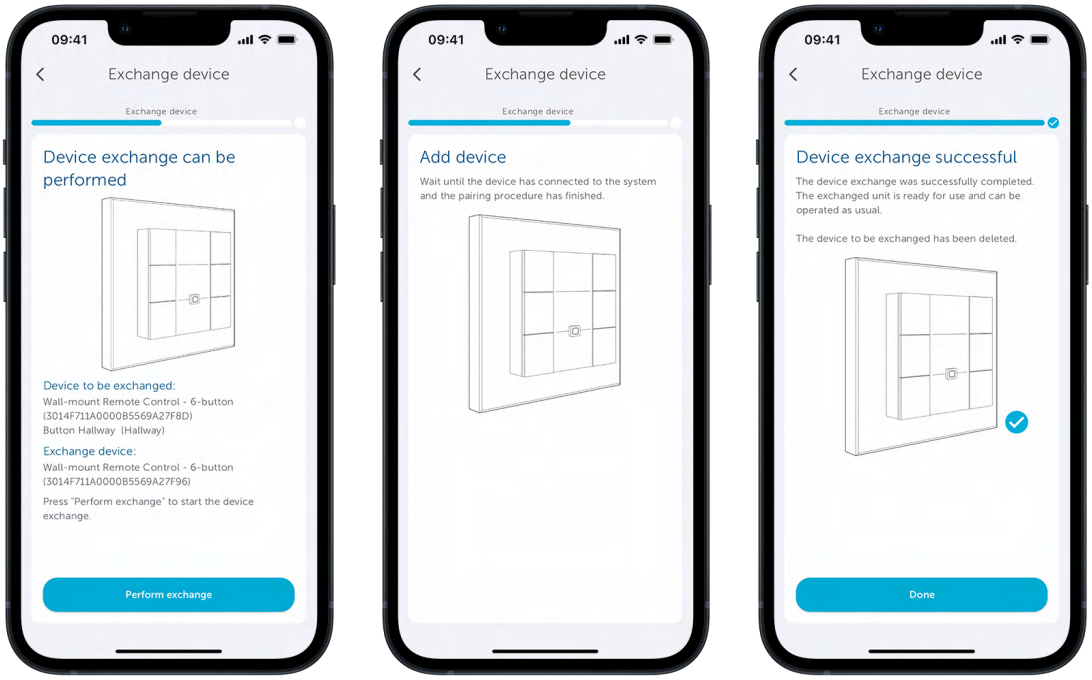


Figure 17: Perform the exchange.

- In some cases, the widgets, among other things, will have to be adjusted.

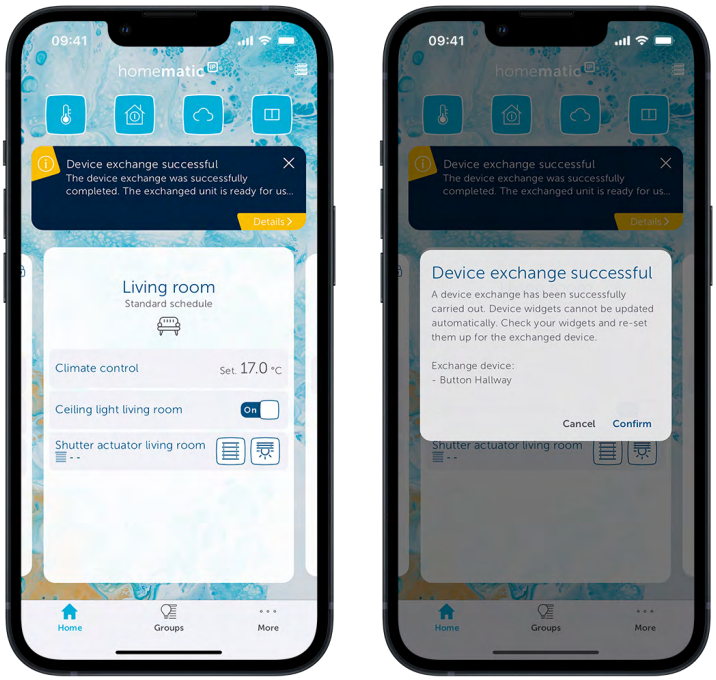


Figure 18: The device exchange is complete.

The firmware can be updated while the device is being replaced. However, the functions are then not available during the process.

Alternatively, the process can be cancelled for the time being if the firmware is outdated. In this case, carry out the following steps:

- Add the device.
- Update the firmware (this may take some time).
- Reset the device to factory settings.
- Restart the device replacement.

6.1.1.5 Replacing the access point

If it should be necessary to replace your Homematic IP access point, this can be done without difficulty. In that case, the new access point takes over all data of your installation. Your previously used access point will be put out of operation.

The new access point must be in the factory settings. Instructions on how to restore the factory settings can be found in the operating instructions and at ***"Restoring the factory settings of the access point" on page 57****.*

As a rule, only access points can be replaced with versions of the same type, e.g. HmIP-HAP for HmIP-HAP.

Please note that additional users registered on the system must be registered again after replacing an access point.

- Disconnect your old access point from the power supply.
- In the app home screen, tap on the main menu icon "... More" and select "Device overview" in the main menu.
- Tap on the access point in the device list and then on "ⓘ".
- Tap on "Replace access point" and follow the instructions in the app step by step.
- Once the replacement has been successfully completed via the app, restart the access point by briefly disconnecting the access point from the power supply and then reconnecting it. Once the replacement procedure is complete, your new access point is set up and immediately ready for use.

6.1.2 Device updates

In order to keep your Homematic IP devices always up to date and to be able to enjoy the full range of functions, Homematic IP offers the opportunity to update the device software (firmware) of the components. The device software controls all functionalities of your Homematic IP device.
A background update is used for the Homematic IP devices. This means that the device firmware is updated in the background via a wireless connection.

6.1.2.1 Background update

The background update is a particularly convenient method of updating individual components, such as radiator thermostats, with new firmware via a wireless connection.
If you want to update the device software of your Homematic IP components, you can select between two options available via the main menu under "Settings", "General settings", "Device update mode":

Manual installation of updates

If a device software update is available for one or more devices, the relevant devices are listed in the main menu in the menu item "Device updates". You can start the update procedure. This mode is selected in the default settings as it offers a better overview. Some Homematic IP devices do not support the automatic installation of updates due to security reasons.

- Select in the menu item "Device updates" the device for which you want to update the device software by tapping on the respective field. It is verified, whether the device update can be performed.
- Tap on the button "Perform device update".

If a device update is available for several devices, please perform the one after another as several updates cannot be performed at the same time due to technical reasons.

Please note that the functionality of the devices is limited during the update. For some Homematic IP devices, it is principally necessary to press the system button on the device so that the update can be directly performed. In this case you are explicitly informed via the app.

Automatic installation of updates

If you select the option “Installing updates automatically” the update of the device software is performed in the background.

In the Homematic IP cloud a device list with the relevant serial numbers and firmware versions is provided. If for one or more of your Homematic IP devices a new device software is available, the Homematic IP cloud forwards this information to your Homematic IP access point. This transfers with every send radio telegram a part of the new firmware file into the memory of the device for which an update is available.
As soon as the firmware file has been transferred completely it will be installed automatically. Thus, confirmation via the Homematic IP app is not necessary.

Please note that the option “Install updates automatically” is not available for all Homematic IP devices. For security reasons updates of devices like the Homematic IP Window and Door Contact must be installed manually. To do this, follow the instructions in the app and then press the system button on the device.

Via ‘Upate status’ in the device settings, the following information can be displayed:

- Device firmware is up to date The latest firmware version is installed and does not need to be updated.
- Device update is prepared: The new device firmware version is transferred step by step to the device in the background. In some cases, this procedure may take several hours or days.
- Device update can be performed: Via ‘Device updates’ in the main menu it will be displayed, for which device the device update can be performed. To do this, follow the instructions in the app. This message only appears if the device update mode has been set to "Manual". Otherwise, the device update is transferred automatically.

Please note, that the time for proceeding the update cannot be influenced (e.g. by operation or pressing the device button).

6.1.3 "General settings"

In the menu item “Settings”, you have the option to adjust general settings for the operation of your system.

- Tap on the main menu symbol “... More”.
- Tap on “Settings”.

The following menu items are here available to you:

- Change **location + time zone** *(see Section “5.3.6.2 Location and weather information” on page 35)*
- View **user management** with all smartphones registered in the system and manage user roles
- Select **device update mode***(see Section “6.1.2 Device updates” on page 49)*
- Determine the **notifications** and **alarm sounds** that you want to receive on your smartphone *(see Section “9.3 Alarm messages in the app” on page 86)*
- Background picture, selection of the rooms as well as sequence of rooms for presentation in the **home screen**

You also have the option of uploading and using your own background images in the Homematic IP app.

- Settings for the **consumption measurement**
- If you use biometric features (e.g. touch or face ID) instead of an administrator PIN in the access solution, the use of **biometrics** can be deactivated again.

6.1.4 Managing user rights

The user rights management function enables you to assign user roles to users within your Homematic IP installation. There are three types of user roles: **Administrators**, normal users and restricted users. Assigning user roles is recommended when there are several smartphones within a Smart Home installation and the system users are to have different access rights.
For example, if you live together as a family and you would like to enable your children to operate the smart home, you can assign the user role of restricted user to their smartphones. This enables your children to operate the smart home (e.g. set the room temperature or switch on the lights), but they cannot create any extensive configurations and have no access to the PIN-protected areas, such as deleting or renaming devices.

Administrators

Users with the **Administrator** user role have access to all areas within the Homematic IP smartphone app. Each administrator assigns their own administrator PIN and receives a recovery key.
User roles can be reassigned and users renamed at any time by an administrator. They can also name additional administrators. These must assign their own administrator PIN for the app and receive a unique recovery key. After successfully activating their user rights and setting up the administrator PIN, new administrators can assign user roles to the other users in the installation.

Normal users

Initially, all users already assigned in the installation are defined as **normal users**. This means they have the same permissions as before the user rights were activated: only access to PIN-protected areas (previously protected by the system PIN) is not possible. Normal users have the option of resetting their own user name.

Restricted users

Users who have been assigned the **restricted user** role have very limited access to the functions within the Homematic IP app. The user interface no longer includes the “Basics” tab, and the menu is also restricted in its range of functions. The user interface is also colour-coded with a yellow stripe.
Users who are added to the installation only after the user rights have been activated are automatically assigned the role “restricted user”.
The user role can be changed by an administrator at any time.

User overview

All the smartphones that are registered within your installation are listed under the menu item “User overview” in the “User administration” menu. As an administrator, you can change the user roles here.

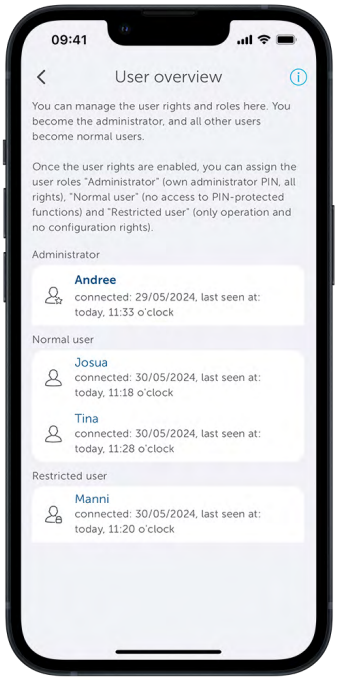


Figure 19: User overview

If your own user role or that of another user in the installation is changed by an administrator, the relevant persons receive a push notification and are informed of the change.

6.1.4.1 Activating user rights and assigning an administrator PIN

Under the menu item “Settings”, you have the option of accessing the “User administration” in order to activate user rights there and assign the corresponding user role to all users of your installation.

- Tap on the main menu symbol “... More”.
- Tap on “Settings”.
- Tap on “User management”.

To be able to manage the user rights, you must first activate them once.

Please note that the person who activates the user rights for the first time automatically becomes the administrator of the installation.

- Tap on “User rights” and then on “Activate”.
- Enter your personal administrator PIN and repeat.

Please note that the administrator PIN must have no fewer than 4 digits and no more than 8 digits.

- Save the recovery key securely.

It is essential to save the recovery key. If you lose your smartphone, you will need it to access your installation again. And, if you forget your administrator PIN, you can assign a new one using the recovery key.

- Tap on the share symbol to the right of the recovery key and send your personal recovery key to yourself, e.g. by email.

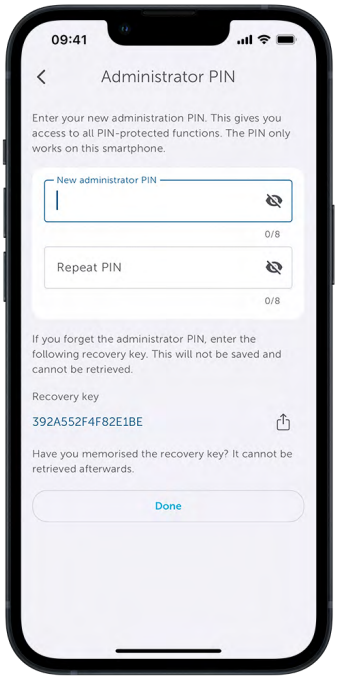


Figure 20: Entering an administrator PIN

- The user management function now contains another menu item, “Administrator PIN”. You can change your administrator PIN here at any time by entering the previous administrator PIN or by using the recovery key.

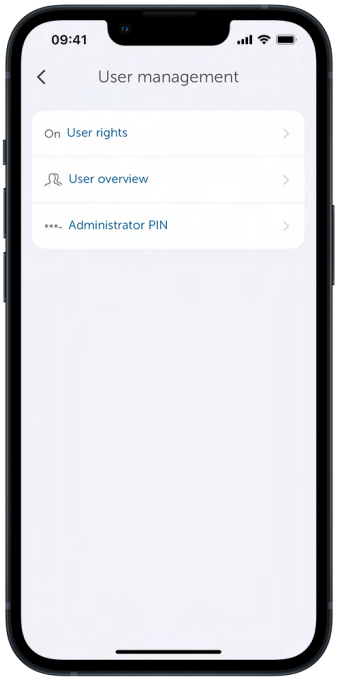


Figure 21: User management after activation of user rights

Please note that activating user rights immediately deletes the previous system PIN, and you must assign your own administrator PIN linked to your smartphone. The system PIN cannot be restored.

After the user rights are activated, all users within the installation receive a push message that the function has been activated and naming which user (name of the smartphone logged in) has activated them. In the app, users can navigate directly to the user administration via the notification.

Please note that deleting or changing the user role "Administrator" is not possible if the administrator PIN has been set up and no other administrator exists within the installation.

6.1.4.2 Adding additional administrators

The Administrator can appoint other users of the installation as administrators by changing their role within the user overview. The user icon in front of the user's name will initially have a question mark and will not change until the user has assigned their own administrator PIN. Each administrator assigns their own administrator PIN and receives their own recovery key. The PIN is linked to their smartphone.

6.1.4.3 Smartphone lost

If you are the administrator of an installation, and you lose your smartphone, you can recover your role as administrator using the recovery key. Add your new smartphone to your installation as usual and then select "Recover administrator" in the user administration. Now you can use your personal recovery key.

- Connecting your new smartphone to your Smart Home installation *(see Section "5.1.4 Adding a new smartphone" on page 22)*.
- You now initially have the user role "restricted user".
- In the main menu, select "User administration" under "Settings" and tap on your smartphone in the list of restricted users in the user overview.
- Select "Recover administrator rights" and enter your recovery key.

You are now the administrator of your installation again.

6.1.4.4 Deactivating user rights

You can deactivate the user rights for your installation if you don't need this function.

- In "User administration", tap on "user rights" and enter your administrator-PIN.
- Tap on "Deactivate" to deactivate the user rights.

After the user rights are deactivated, all users within the installation receive a push message that the function has been deactivated and naming which user (name of the smartphone logged in) has deactivated them. All the installation's users now have the same user rights.

Please note that, once the user rights have been deactivated, every user is able, for example, to create or delete access authorisations. Your system is no longer protected by a system PIN or the administrator PIN. You can activate user rights again if necessary.

6.1.5 Inactive users

If there are inactive users in the installation, e.g. after a change of smartphone or an inactive usage period of more than a year, the app informs you of this via a home message. As an administrator, you then have the option of deleting the relevant users.

6.1.6 Info and help

In this menu item you can request further information about Homematic IP and contact the Homematic IP support hotline for customer-specific support.

- Tap on the main menu symbol "... More".
- Tap on "Info and support".

You can select between the following menu items:

- **User guide**
- **News:** Information about new functions of the current app version.
- **Installation report:** Here, you have the option of generating a PDF document with a detailed installation report of your Homematic IP installation with all relevant data and facts.
- **Support:** If you need help, you will find the current phone number of the Homematic IP Support Hotline in this menu item. When opening the support menu the app generates a support token with six numbers. With this code the support staff will be able to recall completely anonymous information about the condition of your Homematic IP system and to offer you specific support.
- **Legal Disclosures**
- **Legal notice:** (EULA, Privacy Policy, Open Source Licences, Open Weather Map Info)

6.1.6.1 Installation report for your Homematic IP system

The Homematic IP smartphone app offers the option of generating a detailed installation report of the current Homematic IP installation, including all data and facts, as a PDF document.
The installation set up by the specialist company can thus be quickly and completely documented in a matter of seconds, when handed over to the customer.
This means you can have a complete overview of your smart home installation right from the start. The report can be regenerated at any time in the event of changes and extensions to your Homematic IP system. It can also be printed out if required.

You require a compatible PDF reader on your smartphone to generate the report.

To create the installation report, proceed as follows:

- Open the Homematic IP app.
- Tap on the main menu symbol "... More".
- Tap on "Info and help" and select the menu item "Installation report".
- Tap on "Generate installation report". For security reasons, this action is PIN-protected. Enter your administrator PIN if you have activated user rights.
- After entering your Administrator PIN, tap on "Query". Within seconds, the PDF document with the installation report will appear on your smartphone, and you can access it again at any time.

The installation report documents your system data but does not contain a backup of the Homematic IP system.

If a new installation report is generated, it overwrites the last report created on your smartphone, so the most current status of your system is always documented. Before generating a new report, you can save the current report as a PDF document on your smartphone, print it out or transfer it to your PC.

For data protection reasons, the PDF document generated does not contain any data that allows conclusions to be drawn about customers or specialist companies. For identification purposes, it is possible to enter personal data such as name, address. administrator PIN, etc. afterwards using the form fields contained in the PDF document.
Advantages of the installation report at a glance:

- Complete overview of the installation data
- Overview of the total number of installed units within a system
- Detailed overview of the quality of the connections to the Homematic IP Cloud

The most important chapters in the installation report are:

- **Rooms and devices:** list of all rooms and devices as well as their channels, SGTINs and solution allocations
- **Heating and climate control:** heating and cooling profiles for every room
- **Light and shade:** switching and dimmer groups/profiles together with shutter groups and time profiles
- **Security and alarms:** information on the different alarm modes, arming mode, etc.
- **Access:** information on access authorisations, access profiles, closing times, etc.

6.1.7 Multi-home management

Multi-home management gives you the option of setting up several separate Homematic IP systems with one Homematic IP Smartphone App. This enables you to control and configure your home as well as an additional holiday home with your Homematic IP App.

- Tap on the main menu symbol.
- Select the menu item "Multi-home management".
- In the following window, tap on the “+” icon.
- Select a new name for the system you want to install (for example "holiday home“) and tap on "Confirm".
- Add your new access point. Follow the instructions in the app.

After adding the new access point, you can directly see in the home screen which installation you are currently viewing and switch to another installation by tapping on the installation's name (e.g. "My home").

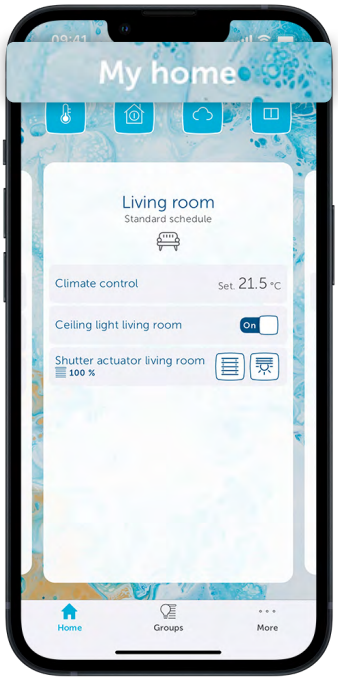


Figure 22: Screenshot of Multi Access Point management: Switching between installations

Alternatively, the menu item "Multi-home management" lets you select which Homematic IP system you want to control with your Homematic IP smartphone app. To do this, tap on the name you have assigned to the respective installation and then on "<".

The access points or installations integrated into the app can be renamed and deleted via the menu at any time.

Information on extending the range by using several access points in one system can be found in section ***"Homematic IP Advanced Routing" on page 18***

6.1.8 Event protocol

The alarm protocol provides detailed information about any activity or event in the system in chronological order. This means that you always have an overview of what has happened in your home in terms of security, access[3] and climate control. Tap one of the listed events to receive more detailed information like date or time as well as information about the triggering device or the alarm message.

- In the app home screen, tap on the main menu icon "... More" and under the menu item "Other" on "Event log".
- The event log opens with a display of all important events.
- You can scroll down to get an overview of previous days. Up to a maximum number of 500 events can be displayed.
- You can use "Edit" under "Settings" to select which activities and events should be displayed in the event log.

If necessary, you can delete the event log at any time under "Edit". If you have activated user rights, you must enter your administrator PIN to delete the event log. After deletion, the event log is restarted from the time of deletion.

6.2 Restoring the factory settings of the access point

The factory settings of the access point as well as the entire installation can be restored. There are two different processes for this.

Resetting the access point:
Only the factory settings of the access point are restored here. The installation remains in place, along with all the settings made.

Resetting and deleting the entire installation
This resets the entire Homematic IP installation and deletes all settings. The app must then be uninstalled and reinstalled. The factory state of your individual Homematic IP devices must also be restored to enable them to be paired again.

6.2.1 Resetting the access point:

To restore the factory settings of the access point, please proceed as follows:

- Disconnect the access point from the power supply. Therefore, unplug the mains adapter.
- Plug-in the mains adapter again and press and hold the system button for 4 s at the same time, until the LED will quickly start flashing orange.
- Release the system button.
- Press and hold the system button again for 4 seconds, until the LED lights up green. If the LED lights up red, please try again.
- Release the system button to conclude the procedure.

The device restarts and the access point is reset.

3 Garage door control unit activities are not displayed in the event log.

6.2.2 Resetting and deleting the entire installation

When resetting, the access point must be connected to the cloud so that the data can be completely deleted. This means that the network cable must be plugged in during the process, and the LEDs must show a steady blue light.

To factory reset the entire installation, you must carry out the previously described process twice within five minutes:

- Reset the access point as described above.
- Wait at least 10 seconds, until the LEDs show a steady blue light again.
- Immediately afterwards, perform the reset for the second time by disconnecting the access point from the power supply again and repeating all the above steps.

After this second restart, your system will be completely reset, and all settings will be deleted.

6.2.3 Deleting an access point from the installation

If you want to delete one of several access points from your Homematic IP installation, proceed as follows:

- In the app home screen, tap on the main menu icon "... More" and then on "Overview of devices". The taught-in access point(s) is/are displayed in the device list.
- Delete the desired access point by swiping to the left in the relevant line and then selecting "Delete".

*The primary access point cannot be deleted from the installation as previously described. If you want to delete the primary access point and thus the entire installation, proceed as described in **"6.2.2 Resetting and deleting the entire installation"**.*

If a secondary access point is deleted from the installation, all system data remains in place.

7 GROUPS AND TIME PROFILES

7.1 Groups (links)

Using the "**(Link) groups**" function, you can use the app to create direct links between devices. Direct links ensure that even if at some point in time there is not a connection to the Internet or the cloud, communication between the devices remains guaranteed. This is the best and most efficient connection. Simultaneous switching of the actuators can also be achieved in “Groups”.
It is possible to create switching, shutter, or garage door groups; all depending on the available components. In this way you can combine for example Homematic IP pluggable switches, motion detectors, or switch actuator and meters into a switching group, thereby triggering the switching on and off of lights via motion detection. You can also group shutters and blinds into shutter groups and comfortably control your actuators at the push of a button.

Details on creating a switching group, a shading group or a garage door group can be found in the sections on shading, light and access.

Previously created groups can be controlled and edited in the home screen via the “Groups" tab (at the bottom).

7.2 Group configuration

7.2.1 Switching group

With the function “Switching groups” you can combine devices like the Homematic IP Pluggable Switches, Motion Detectors or Switch Actuators and Meter into groups. All grouped devices can subsequently be comfortably switched on and off at the push of a button. Additionally, you can switch light sources to a certain dimming level if they are used with the Homematic IP Dimming Actuators.

7.2.1.1 Creating a switching group

To create a switching group, proceed as follows:

- In the main menu under "General settings", select the menu item "Groups (links)".
- Subsequently, tap on the “+” icon and select the option “Switching group”.
- Enter the name of the switching group. Tap on "OK".

Linked devices:

- Under "Triggered devices / grouped devices", select the switching actuators that you want to combine into a switching group one after the other by tapping on the respective “+” icons.
- Save your selection with „✓“.
- Under "Triggering devices", select the devices that the switching group is to switch by tapping on the respective “+” icons one after the other. E.g. a remote control or a wall-mount remote control.
- Save your selection with „✓“.

Configuration:

- Select your desired "Switch-on duration" (1 s to 30 h and infinite).
- Save your selection with „✓“.
- If there is a dimming actuator in the switching group, you can select the desired dimming value with which the switching group is to be switched on under "Dimming value".
- Under "Dimming levels with long button press", select the levels at which the actuator dims (normally in 5% steps or slowly in 1% steps).
- Save your selection with „✓“.

7.2.2 Shutter group

With the function “Shutter group” you can summarise shutter actuators in the app. All grouped shutter/blind elements controlled via the selected shutter/blind actuators can subsequently be moved to its pre-defined position (up/down) conveniently at the push of a button.

7.2.2.1 Creating a shading group

To create a shading group, proceed as follows:

- In the main menu under "General settings", select the menu item "Groups (links)".
- Subsequently, tap on the “+” icon and select the option “Shading group”.
- Please enter the name of the shutter group. Tap on "OK".

Linked devices:

- Under "Triggered devices / grouped devices", select the shading actuators that you want to combine into a shading group one after the other by tapping on the respective “+” icons.
- Save your selection with „✓“.
- Under "Triggering devices", select the devices that the shading group is to shade by tapping on the respective “+” icons one after the other.
- Save your selection with „✓“.

Configuration:

- Under "Brightening position", select the upper position to be approached after pressing the "Raise" button.
- Save your selection with „✓“.
- Under "Darkening position", select the lower position to be approached after pressing the "Lower" button.
- Save your selection with „✓“.
- Under "Action on actuation", select which switching behaviour a remote control or wall-mount remote control should have. You can choose between "Toggle", "Raise" or "Lower".

7.2.3 Garage door groups

By using the garage door groups, the relevant devices for controlling the garage door can be combined quickly and easily. The group function enables modules with remote controls or buttons for opening and closing garage doors fitted with for Hörmann or Novoferm drives to be combined in a group. Due to the direct links between the devices, the door drives can be reliably controlled via remote control or controller, even without active internet connection.

7.2.3.1 Creating a garage door group

To create a garage door group, proceed as follows:

- In the main menu under "General settings", select the menu item "Groups (links)".
- Subsequently, tap on the “+” icon and select the option “Garage door group”.
- Please enter the name of the garage door group.
- Tap on "OK".

Linked devices:

- Under "Triggered devices / grouped devices", select the actuators that you want to combine into a garage door group one after the other by tapping on the respective “+” icons.
- Save your selection with „✓“.
- Under "Triggering devices", select the devices that the garage door group is to switch by tapping on the respective “+” icons one after the other. E.g. a remote control or a wall-mount remote control.
- Save your selection with „✓“.

Configuration:

- Under "Action on actuation", select which switching behaviour a remote control or wall-mount remote control should have. You can switch between "Toggle", "Open garage door", "Close garage door" and "Move garage door to ventilation position" (only possible with Hörmann drives). This selection depends on the type of triggering device.

Each transmitter can only be assigned to one switching group.

7.2.4 Renaming and deleting a group

To rename or delete a group, proceed as follows:

- In the main menu under "General settings", select the menu item "Groups (links)".
- Then select the group by swiping from right to left.
- Tap on “✎”, enter the new name of the group and then tap on "OK".
- To delete a switching group, tap on "🗑" and subsequently confirm the deletion process.

7.2.5 On/off control of groups in the homescreen

The group symbol in the home screen of the app allows you quick access to all switching, shading, and garage door groups of your system. Via this menu item, you can switch on and off all devices of your switching group at the same time.

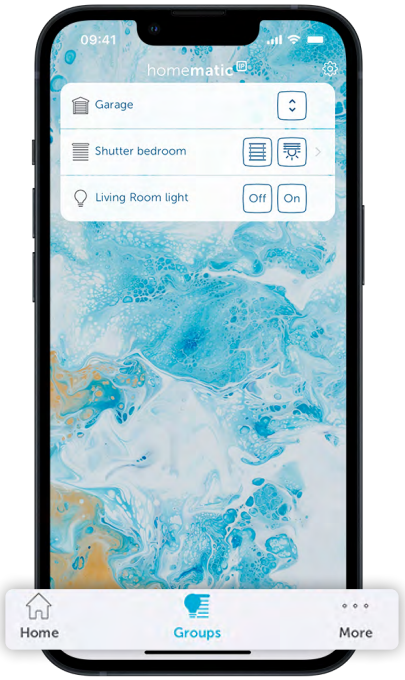


Figure 23: Screenshot groups in the home screen

7.3 Time schedules

With the "**Time schedules**" function for light and shutter control, you can switch on and off e.g. switching actuators at certain points of time or depending on the sunrise and sunset. Furthermore, you can use dimming actuators to dim lights for defined duration to a desired brightness value. The similar case also applies for the "Shutter schedules" function
Details on the creation of a time schedule for switching or shutter actuators can be found in section *"Create switching schedule/ time schedule" on page 101* or *"Creating time schedule" on page 96*.

8 CLIMATE CONTROL SOLUTION

The Homematic IP products from the climate control range enable intuitive and convenient control of the temperature - room by room and entirely according to your individual needs. Regardless of whether you have installed conventional radiators or wall/floor heating - Homematic IP ensures the optimum cosy temperature.

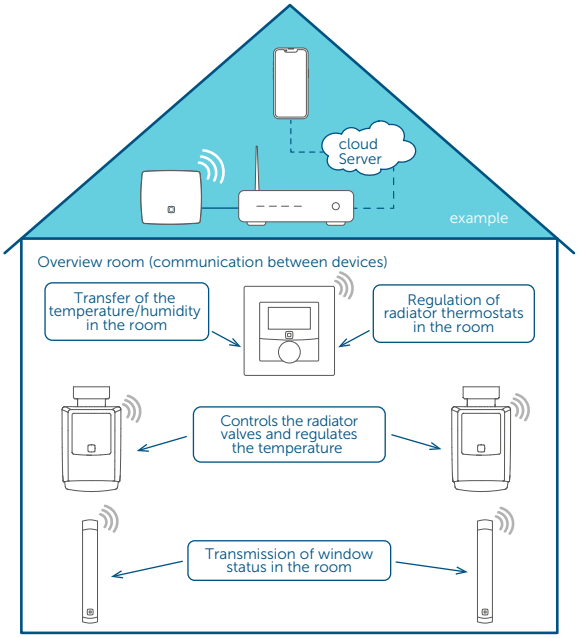
The room temperature can be regulated via radiator thermostats, floor heating controllers, an installed wall thermostat or simply via app. Warm bathrooms in the morning, no wasted heating energy during the day and pre-heated rooms for a well-earned evening after work – no problem thanks to customised heating profiles. Once set up and configured, temperature control is largely automated and makes your everyday life easier. However, you can still react flexibly to changing circumstances and adjust your desired temperature immediately according to your needs.

Homematic IP indoor climate products provide more comfort in everyday life - but also energy cost savings of up to 33%. This is because the combination of demand-led heating and the automatic reduction of the heating when ventilating via window and door contacts makes exactly this possible. The easiest way to control the system is via the Homematic IP Smartphone App.
Not only conventional radiators can be efficiently controlled via app, but also floor heating systems. The system registers the heat requirement of the individual rooms and intelligently distributes the hot water flow to the various heating zones. The continuous flow of heating medium ensures load balancing and efficient energy distribution.

Keeping an eye on the temperature

How an installation for smart room temperature control with Homematic IP components could be set up: The wall thermostat measures the temperature and humidity and forwards this information to the radiator thermostats in the room and to the Homematic IP App cyclically. This means that the current temperature and humidity in each room can be viewed at any time via the app or on the device itself.

With Homematic IP, installation without wiring is child's play thanks to battery operation and wireless communication. So the thermostat can be placed wherever you need in the room to measure the room temperature in the right place. Conventional electric radiators can also be upgraded in conjunction with the wall thermostat and a switching actuator for smart and precise control.



8.1 Installation instructions

For most households, the Homematic IP climate control solution offering easy installation and intuitive operation is without a doubt an attractive method for saving energy costs and at the same time to benefit from the increased comfort that is offered by this solution. Because in private households almost three quarters of the energy costs is used to heat rooms, i.e. the energy costs. The saving potential is considerable and compared to other energy-saving measures it requires less effort.
Homematic IP features an extensive portfolio of customised solutions for controlling the temperature in your Smart Home. From upgrading conventional radiators with electronic radiator thermostats to controlling floor heating, Homematic IP has the ideal solution for almost any installation environment.

The climate control solution can be set up easily and conveniently via the Homematic IP App. The devices are installed on site and then connected to the access point via smartphone.
The individual devices are then linked to each other automatically by assigning them to rooms. If, for example, a radiator thermostat and a window contact are added to the "Living room" room, both devices are linked together. The temperature is then automatically lowered as soon as a window is opened. When the window is closed, the radiator thermostat automatically sets the desired temperature again. This not only saves time, but also valuable energy.

The following provides a number of tips and information about planning your installation.

For which heating systems can the Homematic IP climate control solution be used?

- **Heating system with conventional, water-based radiators**
  The Homematic IP climate control solution is optimised for the application in connection with this currently still most widespread heating system. The manually operated conventional radiator thermostats are replaced by electronic radiator thermostats. The room temperature is regulated time-controlled via the Homematic IP smartphone app according to individual needs.
- **Electric heaters**
  Many households additionally use one or more electric heaters to heat remote rooms separately from central heating, such as garden houses or individual rooms which are rarely used. For this system, the climate control solution is also ideal: In connection with the Homematic IP pluggable switch or pluggable switch and meter and a wall thermostat, the temperature in rooms with electric heaters can be adjusted precisely and based on your demands. Another advantage: Thanks to the measuring function in the device you can always use the Homematic IP smartphone app to monitor the energy consumption and the energy costs.
- **Floor heating and surface heating systems**
  With the growing spread of alternative energy sources such as heat pumps and solar collectors, floor heating systems are also becoming increasingly popular. Because in this combination, it provides its full benefits, such as the possibility of operating in the low-temperature range. Floor heating systems are often considered to be very comfortable, and they also provide more freedom when it comes to furnishing and designing rooms.
  The Homematic IP Floor Heating Controller enables you to control your floor heating room by room conveniently and demand-based, and adapts the room temperature to your individual needs.
  As a basic solution, a floor heating actuator is sufficient already which can be connected directly via radio – i.e. without any cable – with one or more battery-powered wall thermostats (HmIP-WTH-B-2, HmIP-WTH-1, HmIP-WTH-2) for time-controlled regulation of the room temperature. In connection with your Homematic IP access point, you can control your floor heating at any time and almost anywhere via a smartphone app. If you use a mixed heating system, the app takes control of both the floor heating and conventional radiators.
  The system is suitable for the first installation as well as for retrofitting an existing floor heating system. The Homematic IP Multi IO Box and the Homematic IP Switching Actuator for Heating Systems - 2 channel, can also be combined to create a separate control unit for switching boilers, circulating pumps and heat pumps.

How many Homematic IP devices do I need to control the room temperature with radiators in my apartment/home?

- **Homematic IP Access Point**
  Since the access point transfers the configuration data and operating commands to the individual Homematic IP components it should be placed as centrally as possible to ensure optimal radio connection to the devices.

Note: For further information about the ideal positioning of your Homematic IP components please refer to section "4.3 Wireless range".

- **Radiator thermostats**
  We recommend equipping all radiators with a radiator thermostat to ensure a precise and effective heating control system.
- **Window and door contacts**
  Because the window and door contact – optical in combination with one or more radiator thermostats ensures that the room temperature is lowered automatically when the windows are opened, you should install a contact on all of the windows that are opened regularly for ventilation.
- **Wall thermostats and temperature and humidity sensors**
  Wall thermostats should be installed in rooms with several radiators. A wall thermostat is also an advantage in rooms where measuring the humidity is useful, such as in the bathroom or bedroom. Particularly when radiators are installed in an unfavourable position, for example in recesses, a wall thermostat offers advantages because the room temperature is measured where you are, which has a positive effect on temperature control in the room. You can also read out information on the currently measured temperature via a wall thermostat, on the device itself or via the Homematic IP App. You can also use the control wheel on the wall thermostat to change the room temperature manually when required. For floor heating systems and compatible surface heating systems, each room is equipped with a wall thermostat for temperature control.

  Alternatively, you can also use a Homematic IP Temperature and Humidity Sensor (HmIP-STH) or Temperature and Humidity Sensor with Display (HmIP-STHD) to measure the room temperature instead of the wall thermostat in rooms where you do not require manual control. Please note that in principle only one wall thermostat or temperature sensor per room can be used.

Please note that Homematic IP Wall Thermostats of the first generation (HmIP-WTH) can only be used to control floor heating systems after a software update ***(see Section "6.1.2 Device updates" on page 49)***.

Note: Install wall thermostats at a height of approximately 1.5 m and if possible not on cold external walls or other areas which can lead to measurement errors, for example in places with direct sunlight or in the vicinity of other sources of heat.

Wall thermostats with firmware version 2.8.x or later can also be used as dehumidifier controllers in conjunction with Homematic IP Switching Actuators ***(see Section "8.3.2.6 Room configuration" on page 76)***.

- **Wall-Mount Remote Controls**
  Ideally, a wall-mount remote control should be mounted in the area of the entrance door of your home or apartment **so that you can set all rooms with equipped with radiators to eco mode temporarily or permanently when leaving your home. Using several wall-mount remote controls per installation is also possible, e.g. to equip the front door and the back entrance of a house. At the same time you can comfortably reduce the temperature of several radiators at the push of a button.**
- **Pluggable switches / pluggable switch and meters**
  For the intelligent and effective control of electric radiators and for measuring the energy consumption, we recommend that you equip all electric radiators with a pluggable switch or a pluggable switch and meter. In connection with a Homematic IP Wall Thermostat the devices can be used for exact regulation of the room temperature.

How many Homematic IP devices do I need to control the room temperature with floor heating controller in my apartment/home?

- **Floor heating controllers**
  The floor heating controllers can be used to control floor heating systems with up to 6 (HmIP-FAL-C6) or 10 (HmIP-FAL-C10) heating zones and a circulating pump.
  Every second heating zone is equipped with two clamp terminals. This gives you the option of operating up to 9 (HmIP-FAL-C6) or 15 (HmIP-FAL-C10) heating circuits per installation; alternatively, you can use the floor heating controller - 12-channel, motorised (HmIP-FAL-MOT-C12) for up to 12 heating zones.
- **Wall thermostats**
  One wall thermostat (HmIP-WTH-B-2, HmIP-WTH-1, HmIP-WTH-2) is required for each heating zone to control the floor heating controller. When using the floor heating controller - 12-channel, motorised (HmIP-FALMOT-C12), the motorised valve drives (HmIP-VDMOT) are also required, because this floor heating controller is not compatible with conventional bi-metal controllers.
- **Multi IO Box**
  Connect a Multi IO Box to your boiler, the circulation pump or a heat pump for demand-based control of your heating system or the hot water tank. The Multi IO Box offers a wide range of configuration options that allow you to adapt the operation of your boiler, circulation or heat pump to your personal needs. We recommend that you have the installation and configuration carried out by a local distributor.

Which devices will I need apart from the Homematic IP components?

Since Homematic IP is an Internet-based system, you need an Internet connection with a standard router. The Homematic IP access point, the "heart" of the system, is connected to the router via a network cable over a free network connection.

The configuration and operation of your Homematic IP climate control solution is done via an iPhone or Android smartphone. The Homematic IP App is compatible with iPhones from iOS version 8.0 as well as for Android smartphones from version 5. The app is available to download for free for both Android and iOS.

8.2 Configuring the climate control solution for each room

After you have installed and set-up your solution as described in section *"5.3.6.1 Pairing devices"* , you can configure the climate control solution and adapt it to your individual needs.

Homematic IP climate control devices, such as a radiator thermostat, window and door contact and wall thermostat, are automatically linked to each other after being assigned to the same room and act with each other. An electric heater that is connected to the Homematic IP system via a switch socket for example can also be controlled automatically via a wall thermostat if it has been assigned to the "Climate control" solution and to the same room.

8.2.1 Operating modes

Your Homematic IP climate control solution offers five operating modes:

- In **automatic mode** the system controls the room temperature according to your defined and selected heating schedules.
- In **manual operation** you can manually regulate the room temperature independent from the heating schedules.
- In **eco mode**, which can be activated via the home screen on the app or via the Homematic IP Wall-Mount Remote Control, all or any rooms equipped with radiators or electric heaters are automatically lowered to a predefined eco temperature (reduction temperature), for example after pressing the wall-mount remote control when leaving the house.
- In **party mode**, you can keep the room temperature to a certain temperature value for an exact period to be defined.
- In **holiday mode** you have the option to reduce the room temperature until a defined point in time to a freely selectable temperature value in case of longer absence. In holiday mode, the temperature of the floor heating system is also lowered.

Even after your Homematic IP device has been restarted (for example after a battery change or device update), the device's last profile status is now automatically restored. For example, a radiator thermostat's last selected heating schedule will continue to be run after the restart.

8.2.1.1 Automatic operation using heating schedules

You can configure individual heating schedules for each room, in order to automatically control room temperature. Further information on this matter can be found under *"Heating or cooling schedules" on page 70*.

8.2.1.2 Manual operation

If you select the schedule "Manual" for a room, you have the option to select a room temperature that is kept constant within the defined minimum and maximum temperature. The stored heating schedule of the corresponding room is not active in the meantime.

- In the home screen, tap on the room for which you want to activate the schedule “Manual”.
- Tap on the currently activated schedule.
- In the “Delete visible schedules” pop-up window, tap “Manual” and select the desired room temperature using the control dial.
- Tap on Back to return to the home screen of the app.

8.2.1.3 Party Mode

For parties or similar events, a changed temperature can be desired for a certain period of time. You can use the party mode to adjust the room temperature for a precisely defined period of time.

- In the home screen, tap on the room for which you want to activate “Party mode”.
- Tap on the currently activated schedule.
- In the pop-up window "Visible schedules", tap on "Party mode".
- Select the time for activating the party mode and tap “Continue”.
- Use the control dial to select the desired room temperature.
- Tap on Back to return to the home screen of the app.

After the time defined for the party mode has expired, the room temperature is controlled according to the schedule that has been selected last.

8.2.1.4 Holiday mode

By activating the holiday mode you have the option to reduce the room temperature until a defined point in time to a freely selectable temperature value in case of longer absence and thus to save energy.

In contrast to the eco mode, the temperature in the holiday mode is reduced in all rooms, i.e. also in rooms which are heated exclusively with a floor or wall surface heating system.

Activating the holiday mode

- Tap the operating mode icon on the app home screen and select the operating mode "Holiday".
- Swipe to the right and select the date and the time of day.
- Swipe to the right once again, to use the control dial to set the room temperature for the holiday mode and confirm your selection with "OK".

The set temperature is maintained until the selected time. Afterwards, the system changes back to automatic mode with the stored heating schedule for the single rooms.

Deactivating the holiday mode

- In the app home screen, tap on the operating mode icon on the top left of the screen. When switching to a different operating mode (e.g. Automatic), the holiday mode will be deactivated automatically.

If the eco mode is activated you are asked via the app to confirm the change between the eco mode to the holiday mode. The same applies to the change from holiday mode into eco mode.

8.2.2 Room view

- Select a room via the app home screen. Tap on the upper part of the room tile and subsequently on "Edit". Here you can choose multiple menu items, depending on your system configuration. Details on the individual menu items can be found at *"Room menu" on page 28*.

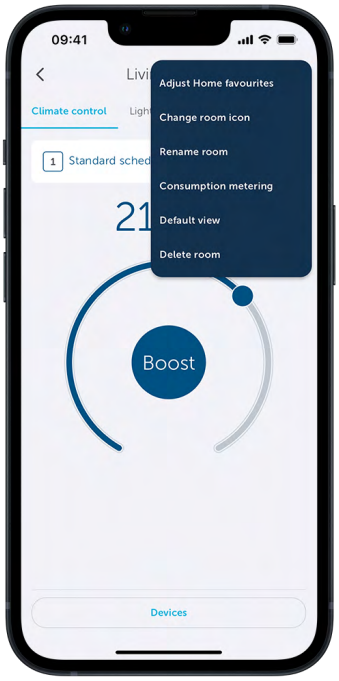


Figure 24: Screenshot room view overview

8.2.2.1 Measuring power consumption

Devices such as the Homematic IP Pluggable Switch and Meter allow both switching on and off as well as the display of the consumed energy costs of connected devices ("consumers"), for example via the Homematic IP smartphone app.
After you have supplied power to and paired corresponding device, you can record the energy consumption of devices that you have connected to the pluggable switch and meter (please observe the technical data in the user manual of the device).

Switching is performed either via the app or manually via the system button on the plug.

Setting the consumption parameters

In order for the energy costs of your connected device to be displayed correctly and in the desired currency, it is necessary to first enter the price per kilowatt hour for your household. You will receive the relevant information on your current rates by your energy provider. Optionally, you can also adjust the currency. To do this, proceed as follows:

- Tap on the main menu symbol "... More" and there on "Settings".
- Select the menu item "Consumption metering" in the "General settings" menu.
- Under "Price / kWh", enter your current rate in Euro per kilowatt hour. After tapping on the left arrow in the top left corner of the screen, the entry will be stored.

If required, you can adjust the currency under "Settings", "Consumption metering", "Currency". In the default settings, the energy costs are displayed in Euro (EUR).

In the device overview of the app, you can see the power of the device connected to the Homematic IP Pluggable Switch and Meter in watts.

Display of consumption values

- Use the app homescreen to select the room to which the consumer connected to the pluggable switch and meter has been allocated.
- Tap on " ⋮ ".
- Tap on "Consumption metering".

Under the menu item "Consumption metering" you will see the consumed energy in kWh as well as the energy costs in the selected currency – individually and in total.

Resetting the consumption data

The consumption data is continuously metered and summed up. However, you can reset the consumption values back to zero at any time, for example if you want to know about the energy consumption within a certain period of time. Please note that the consumption values are no longer available after resetting.

- In the device overview, select the device that is connected to the respective pluggable switch and meter by tapping it.
- Tap "Reset consumption data".

8.3 System-wide settings for the climate control solution

8.3.1 Heating or cooling schedules

Heating and cooling schedules provide you with the option to tailor the heating control for each room to your personal needs and individual routines. Automatic control of the room temperature allows you to always have your desired temperature.
For each room, the app can define up to three different heating or cooling schedules (if you are using floor heating controllers). Within these heating schedules, you can set different minute-to-minute switching times for each day of the week and thus regulate the room temperature in a time-controlled manner - with up to six freely definable heating phases per day and a temperature selection with a precision of up to 0,5 °C.

All defined heating schedules can be selected under the corresponding rooms with a fingertip.
When using floor heating actuators, it is possible to pair them with the Homematic IP Multi IO Box in order to control the boiler and to switch from heating to cooling operation. Just as for heating schedules, individual cooling schedules can also be created. The floor heating system can thus even cool rooms down to a pleasant level in summer.

8.3.1.1 The standard schedule

In the app, up to three heating schedules can be created and configured for each room. The standard schedule is explained in more detail below:
A base temperature of 17 °C is specified as a default. The *base temperature* indicates which constant temperature is to be kept in the room when the heating schedule is neither in a heating nor in a lowering phase.

In addition, a room temperature of 21 °C is specified from 6:00 am to 9:00 am and from 5:00 pm to 9:00 pm for the weekdays. For Saturdays and Sundays, a room temperature of 21 °C is pre-set from 6:00 am to 10:00 pm.

Figure 25: Screenshot Standard schedule

8.3.1.2 Adjusting the heating schedules

You have six options for adjusting the heating schedules:

- Rename schedules
- Changing the base temperature
- Changing the predefined heating phases
- Deleting and adding heating phases
- Copying switching times to other weekdays
- Copying schedules to other schedule positions (transferring complete week schedules to other rooms)

Selecting schedules

- Access the main menu and tap on "Heating schedules".
- In the "Heating schedules" menu, select the schedule of the room you want to adjust by tapping "Standard schedule" under the relevant room. The schedule is loaded and the schedule overview opens with the reset heating schedules for every day of the week.
- Select the day for which you want to adjust the heating profile.

Rename schedule

- Swipe from right to left in the area of the corresponding heating profile and tap on "✎ Rename".

Changing the base temperature

The base temperature indicates which constant temperature is to be kept in a room, if the heating schedule is neither in a heating phase nor in a lowering down phase.

- Tap on the top schedule bar (Monday).
- Tap on *Base temperature*; then adjust the base temperature using the control dial.
- Save your setting with "✓".

Changing heating phases

- Tap on the heating phase you want to change. You can now change the selected heating phase via the respective "Start", "End" and "Temperature" fields.
- Save your setting with "✓".

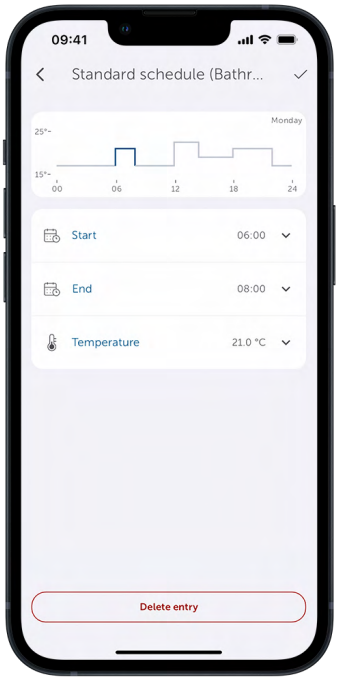


Figure 26: Screenshot changing heating phases

Adding heating phases

- In the schedule overview of a room, select a day schedule and tap on the + sign. A new heating phase is opened that you can individually adjust (refer to "Changing heating phases").

Deleting heating phases

- Swipe from right to left in the area of the corresponding heating phase and tap on "🗑 Delete".

Copying day schedules to other weekdays

With this function, you can transfer day schedules that you have already defined for a weekday to one or several additional weekdays. Subsequently, you can further adjust the heating schedules for the selected weekdays.

- In the corresponding room profile, swipe from right to left in the day schedule area and tap on "⧉ Copy".
- Select the desired weekdays and confirm with "OK".

Transferring heating schedules to other rooms.

This function enables comfortable copying of one of your defined week schedules to other rooms.

- In the profile overview, swipe from right to left in the area of the corresponding room profile and tap on "⧉ Copy".
- Select the desired schedule position by tapping and then tap on "⧉".

Creating additional heating schedules

In the app you can define up to three heating schedules for each room via the menu “Heating schedules”.

- Tap on "Edit visibility".
- In the "Visible profiles" window, select at least one additional visible profile and tap on "<".
- Tap on the selected alternate schedule. In the schedule overview you can define this schedule and if required one additional schedule as described above.

Also for this feature it is very useful to copy the switching time to other week days.

8.3.2 Climate control configuration

Via the climate control configuration you will be able to adjust further settings for the regulation of the room temperature. Depending on your components, different configuration possibilities will be displayed.

- In the app home screen, tap on the main menu icon "... More“ and select "Climate control configuration" in the main menu.

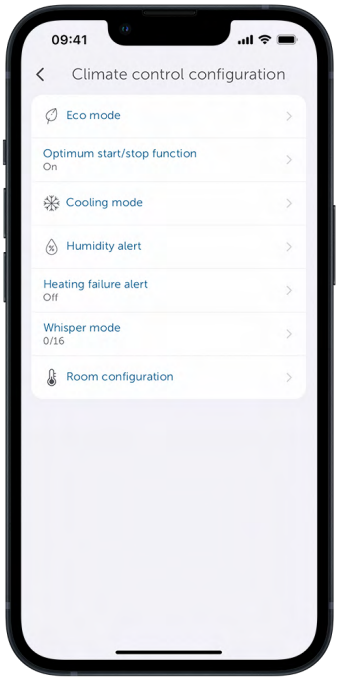


Figure 27: Screenshot Overview climate control configuration

8.3.2.1 Eco mode configuration

- Tap on "Eco mode" to make the various settings.
- Via the menu item "Rooms in eco mode" you can determine in which rooms the temperature is to be lowered to eco temperature during the active eco mode. The eco mode can be activated by default for all rooms, which are heated by conventional or electric heaters. Here, temperature reduction can be configured for a certain period using the holiday mode. You can deselect single rooms by deactivating the check box. Save your setting with “✓”.
- Select the desired room temperature for the eco mode using the control dial in the menu item “Eco temperature”. Save your setting with “✓”.
- Use the menu item “Eco duration (for wall-mount remote control)” to determine the duration of the eco mode after pressing the wall-mount remote control. You can select between 2, 4 and 6 hours or “Permanent eco mode”. Save your setting with “✓”.

Rooms that are heated by floor heating (HmIP-FAL/HmIP-FALMOT) are excluded from eco mode. Eco mode is not available even when a radiator thermostat is also installed in the space.

If you switch from the automatic to the eco mode on the app homescreen, you will be asked automatically how long the eco mode has to be applied.
Via the slider the following options are available:

- Off
- for 2 hours
- for 4 hours
- for 6 hours
- Date
- Permanent Eco mode (∞)

In addition, you have the option to define a period of up to one year after tapping on the time limit for the duration of the eco mode.

8.3.2.2 Optimum start/stop function

If the optimum start/stop function is activated, the required delay time for heating or cooling a radiator heating or floor heating is calculated automatically. The selected heating schedule will here be evaluated proactively, based on the calculations of heating lead times for the previous days. This offers the advantage that the desired room temperature is reached already at the time set in the heating schedule and kept for the required period of time.

You can activate the optimum start/stop function as follows:

- Tap the main menu icon on the app homescreen and select "Climate control configuration" in the main menu.
- In the "Climate control configuration" menu, tap on "Optimum start/stop function".
- Activate the function by tapping "On". Save your setting with "✓".

The app automatically returns back to the menu item "Climate control configuration". The function is subsequently activated for conventional radiators or floor heating systems. In mixed operation, the function is activated for both systems in parallel. Should you activate this function retroactively, please keep in mind that you have to adjust your heating schedules respectively.

Please note that in the first 2-3 days following the activation of the optimum start/stop function, the system will be "learning" your heating system's features. During this time the temperature setting may possibly be reached some minutes sooner or later. When this process is completed, you no longer have to take into account any heating or cooling lead times in the heating schedules. However, if the optimum start/stop function is activated, a clearly noticeable reduction in temperature might already come about up to one hour prior to the reduction specified by the heating schedule.

8.3.2.3 Humidity warning

Optimum humidity in living spaces has a positive effect on one's well-being; it also protects the basic structure of the building and helps to prevent mould. The "Humidity warning" function allows you to set individual threshold values for humidity in selected rooms. If the defined values are exceeded or not reached, a humidity warning appears on the homescreen of the Homematic IP app, optionally also as push notification on your smartphone. In addition, depending on the measured indoor humidity and the determined outdoor humidity (via a sensor for outdoor use or online weather data), you receive a recommendation as to whether you should ventilate or not in order to improve the indoor climate.

The humidity warning can also be used as trigger in automation, for example to activate a dehumidifier if a defined threshold value is exceeded.

Proceed as follows to activate the humidity warning:

- Tap the main menu icon on the app homescreen and select "Climate control configuration" in the main menu.
- Tap on "Humidity warning".
- Tap on the + symbol in the following window and select a room for which you want to activate the humidity warning.
- Save your setting with "✓"
- The default humidity thresholds are 40% and 60%. If necessary, you can tap the room to adjust these values, which should apply to the selected room. In this window, you can also deactivate or activate the humidity warning at any time.
- Repeat this procedure to select and configure additional rooms.
- Then select the data source for the weather data. This can be one of the Homematic IP Weather Sensors, a Homematic IP Temperature and Humidity Sensor or an online data source.
- Save your setting with "✓".

8.3.2.4 Heating failure alert

Your Homematic IP system is able to detect whether the desired target temperature has not been reached in at least one room within a period of 24 hours or whether no status info of the devices has been received from the room. This can indicate a failure of the heating system or a permanently open window. If you have activated the heating failure warning, you will receive a message on the homescreen of the Homematic IP app and a push message on your smartphone so that you can react accordingly.

Only rooms where radiator thermostats and/or wall thermostats are used are included in the monitoring for the heating failure warning.

Proceed as follows to activate the heating failure warning:

- Tap the main menu icon on the app homescreen and select "Climate control configuration" in the main menu.
- Tap on "Heating failure warning" and activate this function.
- Save your setting with "✓".

8.3.2.5 Whisper mode for radiator thermostats

In principle, room temperature control via Homematic IP Radiator Thermostats is very quiet. However, the 'Whisper mode' function also enables you to set your Homematic IP Radiator Thermostats to whisper mode if required. Activating this function is particularly useful in bedrooms, as opening and closing of valves in this mode is slower and therefore even more quiet.

Please note that the battery consumption of the respective radiator thermostat increases by approx. 15-20 % when whisper mode is activated.

Whisper mode is supported by the Homematic IP Radiator Thermostat (HmIP-eTRV-2).

Activate the whisper mode for radiator thermostats as follows:

- Tap the main menu icon on the app homescreen and select "Climate control configuration" in the main menu.
- Tap on "Whisper mode" and in the following window select the rooms for which the whisper mode is to be activated.

The rooms greyed out in the list do not support this function. Either there are no compatible thermostats in the corresponding room or there is a firmware update available for the radiator thermostats.

- Save your setting with "✓".

8.3.2.6 Room configuration

This menu item enables you to select the desired room and then configure it.

Minimum temperature

- Tap "Minimum temperature" and select the desired temperature via the control dial. Save your setting with "✓".

Maximum temperature

- Tap "Maximum temperature" and select the desired temperature via the control dial. Save your setting with "✓".

The minimum and maximum temperature that you define via the menu item "Configuration" has priority over the selected heating schedule of the corresponding room.

If, for example, you have selected 20 °C for the maximum temperature of a room, this temperature limitation applies even if you have set a temperature of 22 °C in one or more heating phases of the selected heating schedule. This also applies to the minimum temperature.

Open-window temperature

Use this menu item to determine the temperature of the relevant room to which the radiator thermostat(s) will be lowered when you open the window.

- Tap "Open window temperature" and select the desired temperature via the control dial. Save your setting with "✓".

In case of rapidly decreasing temperatures (1.5 °C in 3 min) due to an open window, the radiator thermostat will automatically reduce the temperature of the radiator to 12 °C for 15 min ("Temperature drop detection"). After 15 min, the radiator thermostat will change back again to the current heating schedule. The installation location of the radiator thermostat (below window sills, behind furniture or curtains) or external temperatures may influence the open-window detection. For optimum open-window detection, it is thus advisable to use the Homematic IP door and window contacts.

Boost duration

Use this menu item to define the duration of the boost function. If you activate the boost function via the app or the thermostat, the thermostat's valve is fully opened for the set time period, so that an optimum comfort temperature can be achieved quickly.

- Tap "Boost duration" and select the desired boost duration via the control dial. Save your setting with "✓".

Heating system (available when using floor heating actuator)

This menu item allows you to select the heating system that you want to control with your floor heating actuator. You can select between the following five options:

- **1. Standard**
  Select this mode for standard floor heating systems in conventional buildings.
- **2. Low energy**
  Select this mode if you use a floor or wall surface heating system with a very low flow temperature, for example in an energetically renovated building or new building with low energy requirements.

The remaining three options are reserved for special areas of application and are not relevant for floor and wall surface heating systems.

- **3. Radiator**
  With this mode, it is possible to regulate water-based radiators via a channel of the floor heating actuator. For this, a wired thermal valve drive is required on the radiator.
- **4. Passive convector**
  Select this mode only when using underfloor convectors, such as those used in front of large window areas.
- **5. Active convector**
  This mode is applied only when fan coils are used, which are mainly used in office and industrial buildings.

Switch actuators in humidistat mode

If you link a wall thermostat (with firmware version 2.8.x or later) to a switching actuator, you can use the thermostat to control a dehumidifier. This function, the so-called hygrostat mode, is available in the room configuration if you have assigned the "Climate control" function to the switching actuator in the room assignment.

To enable hygrostat mode, proceed as follows:

- Select the "Room configuration" menu item and then the room to which both the wall thermostat and the switching actuator are assigned.
- Tap on "Switch actuators in hygrostat mode".
- On the next screen, select "Hygrostat (e.g. dehumidifier)" and save the setting with "✓".

The mode is now set to "On". You can also use the "Humidity limit" menu item to set the humidity value above which the dehumidifier is to be activated (see below).

Humidity limit

When using a Homematic IP Multi IO Box with connected dehumidifier, the humidity value can be set here from which the dehumidifier is activated to avoid condensation problems. In underfloor heating systems with active cooling mode, the corresponding cooling circuit is also closed.

8.3.3 Summer break for heating control

In the summer, the heating schedule can be switched to "manual" in the individual rooms so that the heating schedules are no longer executed.
If the heating system is switched off in the summer, the nominal temperature is to be set to 30 °C so that the valves are fully opened. If the heating system remains switched on in the summer (e.g. in multi-family dwellings), the room temperature should be set to 5 °C so that the valves are fully closed.

8.4 Heating system control and hot water supply with HmIP-MIOB / HmIP-WHS2

With the Homematic Multi IO Box (HmIP-MIOB) or the Homematic IP switch actuator for heating systems - 2 channels (HmIP-WHS2), a smart active heating demand control of the boiler can also be realised for installations with Homematic IP radiator thermostats and for mixed installations. The devices provide an assessment of the heating demand and control the boiler according to the requirements. In this case, the heating demand is determined via the radiator thermostats of one or more selected rooms or - depending on the configuration - via a room thermostat with the option to additionally integrate rooms with radiator thermostats to determine the heating demand. Furthermore, both devices can also be used to control hot water treatment.

8.5 Floor heating control

With the integration of one of the floor heating actuators into your system you can comfortably configure and control your floor heating and other water-based surface heating in connection with one or more Homematic IP wall thermostats via the Homematic IP app. In addition, several floor heating actuators can be used in the house and are integrated into the Homematic IP system.

The Homematic IP floor heating control can be realised using floor heating actuators as well as one or more Homematic IP wall thermostats (depending on the number of rooms equipped with floor heating). Different device versions are available in this respect. Detailed information on this can be found in the installation example below.

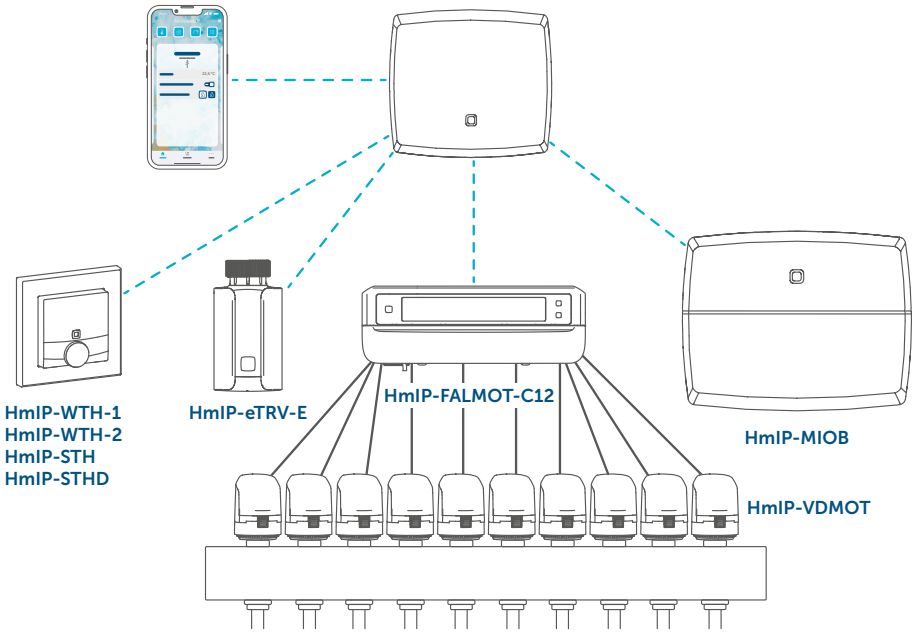
With the Homematic IP floor heating actuators, you can control standard floor heating systems with 6 or 10 heating zones as well as a circulating pump. In this case, the circulating pump must be connected directly to heating zone 1 (HZ1) of the floor heating actuator.

In connection with the Homematic IP Multi IO Box, additional functions and devices can be integrated. This includes e.g. humidity and temperature limiting functions, external timers as well as switching from heating to cooling operation for floor heating system with cooling function.

8.5.1 Options for controlling the floor heating system

Configuration and operation via app

- When using the Homematic IP Access Points, setup, configuration and temperature setting are conveniently provided via the Homematic IP smartphone app
- Needs-based regulation of the temperature in rooms with floor heating and with conventional radiators can be provided in parallel



Wireless Connection
Cable Connection

8.5.2 Setup and configuration via wall thermostats (stand-alone version without access point)

8.5.2.1 Pairing

If you use the floor heating controller in a stand-alone solution together with one or more Homematic IP Wall Thermostats (and HmIP-WTH-2), the configuration and temperature control are performed via the wall thermostat only. Therefore, it is necessary to pair the individual channels of the floor heating controller with the wall thermostat(s).

To do this, proceed as follows:

- Briefly press the Select button on the floor heating controller to select the channel to which you want to pair a device. Press once for channel 1, twice for channel 2 etc. The channel LED lights permanently for the corresponding channel.
- Press and hold down the system button of the actuator for 4 s until the LED quickly starts flashing orange. The pairing mode of the selected channel remains activated for 3 minutes.
- Press and hold down the system button of the wall thermostat for at least 4 seconds to activate the pairing mode. The device LED flashes orange.

The device LED of the selected channel lights up green to indicate that pairing has been successful. If pairing failed, the device LED lights up red. Please try again.

If several heating circuits are installed in one room, repeat the pairing procedure for all channels that control the valve drives for the single heating circuits of the room. Repeat this procedure for all other rooms.

8.5.2.2 Using several floor heating controllers

To add a new floor heating controller to the system or to the existing devices, proceed as follows:

- First pair the new floor heating controller with the existing floor heating controller. To do this, switch the existing floor heating controller to pairing mode by pressing and holding the system button for at least 4 seconds.
- Enable the pairing mode on the new floor heating controller by pressing and holding the system button for at least 4 seconds. The device LED lights up green to indicate that pairing has been successful. If pairing failed, the device LED lights up red. Please try again.
- You can add the new floor heating controller to other Homematic IP devices, such as the wall thermostat or the Multi IO Box. Simply enable the pairing mode of the floor heating controller first before enabling the pairing mode on the device you would like to pair. For further information, please refer to the user manual of the corresponding device.

When using a pump controller it is important to pair the floor heating actuators with one another.

8.5.2.3 Communication test

You can check the wireless connection between your Homematic IP Wall Thermostat and the Homematic IP Floor Heating Controller as well as the correct assignment of channels.

During this check, the wall thermostat sends a switching command to the
floor heating controller The wall thermostats allocated to the heating circuit(s) are triggered and switched on or off for one minute, depending on the system status. Meanwhile, the corresponding channel LEDs of the floor heating controller light up green.

- Press and hold the control wheel of the wall thermostat to open the Configuration menu.
- Select the symbol by turning the control wheel and confirm by pressing the control wheel briefly.

8.5.2.4 Configuration via Wall Thermostat

The Homematic IP Floor Heating Controller is pre-configured such that it is not necessary to change the configuration settings after pairing. For special cases and requirements there is a wide range of configuration possibilities available via the Homematic IP Wall Thermostat.

To configure the underfloor heating controller via the wall thermostat, pair the floor heating controller to the wall thermostat. Then use the configuration menu of the wall thermostat to configure the individual settings.

To control the floor heating controller, the use of one or more Homematic IP Wall Thermostats. The wall thermostat requires firmware version 1.6 or later. For further information about the device firmware, please refer to section ***"16.3.1 Device software update (OTAU)"****.*

For detailed information on configuring the floor heating controller via a wall thermostat, please refer to the Homematic IP Floor Heating Controller operating instructions (available to download for HmIP-FALMOT-C12, HmIP-FAL230-C6, HmIP-FAL230-C10).

8.5.3 Set-up and configuration via the Homematic IP app

If you are using a Homematic IP Underfloor Heating Actuator in combination with a Homematic IP Access Point, pairing and configuration are performed as usual via the Homematic IP app. For details, refer to the operating instructions of your underfloor heating actuator.

First set up your Homematic IP Access Point via the Homematic IP app to enable operation of other Homematic IP devices within your system. For further information, please refer to the Access Point operating manual.

Please note that one room can be supplied via several heating circuits. For further information, please contact your plumbing and heating installer.

In the first 10 minutes, the start mode is activated. All heating zones are activated, and the device LED lights up green.
In the following 20 minutes, the setup-mode is active. The heating zones are controlled via a two-point control response so that, when the setpoint temperature is reached, the heating zone is switched off. If the temperature falls below the setpoint temperature, the heating zone is switched on.
After 30 minutes, standard operation is active. The valves are then periodically switched on and off (PWM cycle) via adaptive control (proportional integral control) to reach or maintain the temperature setting.

8.5.3.1 Configuration options for floor heating actuators

The Homematic IP floor heating actuator is pre-configured in such a way that it is generally not necessary to change the configuration settings after pairing. If necessary, the configuration options of the floor heating actuator allow you to edit various parameters.

Explanations about the various terms or terminology regarding floor heating control can be found in the ***"Glossary" on page 161****.*

For installations with a floor heating controller (HmIP-FAL/HmIP-FALMOT) or a wall thermostat with switching output (HmIP-BWTH or HmIP-BWTH24), it is not possible to control a dehumidifier via HmIP-MIOB/HmIP-WHS2 via an automation. In installations with HmIP-MIOB/HmIP-WHS2 (without floor heating controller), however, this option is available via an automation.

Allocation

Here, you can subsequently change the room allocation of the device, the device name as well as the assignment of heating circuits.

Local pump control

In the default settings, the local pump control is deactivated, i.e. the integrated pump of your heatingsystem takes care of the circulation. If a heat pump is directly connected to the floor heating actuator via heating zone 1 (HZ1), activate the local pump control.

- Tap on "Local pump control".
- Tap on "On" and confirm.

Valve type

Usually, in your heating manifold valve drives of the valve type “normally closed” (NC) are installed. This complies with the default settings.
If valve drives of the valve type “normally open” are installed in your manifold, please select the option “NO (normally open)”. For further information, please contact your plumbing and heating installer.

Emergency operation cooling

If the radio communication between the wall thermostat and the underfloor heating actuator fails for a longer period of time, the cooling mode is deactivated or the valve changes back to a defined value. The default setting is a reduction of the cooling mode to 0 %.

Emergency operation heating

The valve opening duration is recalculated every 15 minutes. If the radio communication between the wall thermostat and the floor heating actuator fails for a longer period of time, e.g. if a battery is empty, all valve are controlled automatically. In default setting, the valve is opened for 225 seconds (25 % of 15 minutes). When the radio communication is recovered the system changes back to normal operation.

Frost protection temperature

To prevent the system from freezing, the underfloor heating actuator is controlled to a room temperature of 8 °C as the setpoint (default setting). If required, you can deactivate the frost protection (“Off”) or select a room temperature between 2 °C and 10 °C in 0.5 °C steps using the rotary control.

Heating zone control

When selecting “Load balancing” (default), the heating zones will be controlled in a staggered way if possible, to provide a continuous flow of heating water.
When selecting “Load collection”, the heating zones are controlled collectively (if possible).

Valve protection function

Thanks to the valve protection function, in time periods without temperature regulation, e.g. during the summer, the valve drives are triggered regularly to prevent the valves from sticking. You can define the time interval (off, 1–28 days) as well as the activation duration (0–10 minutes).

Pump delay

Here you will define the pump delay with active local pump control.

Pump lag time/pump protection function

In case of activated local pump control - i.e. a pump is connected directly to the floor heating actuator - you can adjust a switch on or switch off delay of 0 to 20 minutes in 2 minutes steps for the circulating pump, if required. Furthermore, this allows you to activate the time interval and the duty cycle of the pump protection function to prevent damage to the pump in case of longer standstill periods.

9 SECURITY SOLUTION

No movement goes unnoticed with Homematic IP security components. Our security and alarm products increase protection against break-ins and the sense of security inside your own four walls. In alarm mode, users are informed whenever windows and doors are opened. Motion detectors enable the reliable monitoring of inside and outside areas while sirens trigger an alarm in the event of break-ins. The Homematic IP Water Sensor immediately signals the presence of moisture or water via the integrated siren and a push notification in the Homematic IP Smartphone App. The alarm notifications in the app differentiate between intruder alarms and hazard alarms. In addition, the device and room that triggered the alarm are named in the alarm notifications so that the cause can be localised as quickly as possible. Just a quick glance at the app is all it takes to see that everything is as it should be at home. So you no longer need to worry about windows and doors being left open. And that even if you're thousands of miles away.

The alarm mode can be activated easily via the app and via the Homematic IP Key Ring Remote Control - alarm (HmIP-KRCA). If the presence mode is activated, the system triggers an alarm as soon as windows or doors are opened unauthorised, for example. If the absence mode is activated, sensors for indoor areas like the motion detectors are additionally included. If the alarm is triggered, an acoustic signal can be emitted via one or more Homematic IP alarm Sirens as well as a push notification issued via the registered smartphones. The event protocol provides an overview of all activities in your home at any time.

With the extended security solution, a default alarming mode is available, that ensures secure protection also in case of inactive cloud connection: The Homematic IP Alarm Sirens triggers an alarm also if there is not active Internet connection or the Homematic IP access point is not available, e.g. due to power failure. You will find further information about the extended security solution in the section *"Configure security solution" on page 90*.

9.1 The benefits

The number of break-ins has been rising steadily in recent years, and in view of this trend, many people feel the need to protect their homes and at least make it much more difficult for unwanted visitors to break in.

The Homematic IP security solution contributes to this need for increased security. Either used as independent security solution or as extension of an already existing Homematic IP system, it offers effective and secure protection and alarm functions for your home. However, the single components are fully compatible with already existing products and can be installed as easy as the Homematic IP climate control solution.
In terms of security, the devices of the Homematic IP security solution certainly meet the standards just like all other Homematic IP products.

9.2 Installation instructions

The Homematic IP security solution can be installed and operated just as easy as the as the Homematic IP climate control solution. With its reliable protection and alarm functions it does increase the security - for you, your family and your belongings. In times of increasing mobility it is a good feeling to the able to monitor the home also while being out and about. It contributes to the increasing need for security of many people and helps to protect them against unpleasant surprises.

The following provides a number of tips and information about planning your Homematic IP security solution.

I have already installed a Homematic IP climate control solution. Is it possible to integrate the security solution into my system?

From the very beginning, Homematic IP has been designed as modular system. The Homematic IP security solution fits seamlessly into an already existing system – including the set-up and control of all existing and new components via the smartphone app. Another advantage: Some devices of the climate control solution, like the window and door contacts for example, take over additional security functions after integration into the security solution and thus offer additional benefits.

I am living in a rented flat. Can I use the Homematic IP security solution as well?

All Homematic IP components can be removed without damage at any time and can, for example, easily be installed in the new flat. However, the Homematic IP security solution is appropriate for the protection of rented flats just as for own houses.

What as to be considered for positioning the Homematic IP security devices.

If possible, position your security components such that they are not detectable at first glance from the outside. A motion detector for monitoring rooms should be positioned so that a burglar is reliably recognised on his way through the house/flat, e.g. in the area of an entrance or terrace door.

Which Homematic IP devices do I need for my flat/my house?

- **Homematic IP access point**
  Since the access point transfers the configuration data and operating commands to the single Homematic IP components it should be placed as centrally as possible to ensure optimal radio connection to the devices.

Note: For further information about the ideal positioning of your Homematic IP components please refer to section *"Wireless range" on page 18**.*

- **Homematic IP Motion Detector with Brightness Sensor – indoor / Homematic IP Presence Sensor – indoor**
  Motion detectors and presence sensors should be mounted in areas that have to be passed after unauthorised passage trough a flat or house. Especially consider the detection angle of the motion detector. Also in rooms where valuable objects are stored, monitoring by motion detectors is recommended.
- **Homematic IP Motion Detector with Brightness Sensor – outdoor**
  The motion detector for outdoor areas offers additional security for your house and garden. The lens of the device can be rotated through 360° and also tilted in the wall mount. This means that the detection range can be set to virtually any angle to the wall and the floor. For example, use the motion detector to switch lights or to detect motion in outdoor areas.
- **Homematic IP Window and Door Contact - optical /**
  Window and door contacts reliably signal whether a window or door is open or closed and thus protect the building envelope. Therefore, you should equip all windows and doors concerned, especially entrance and terrace doors, with a window and door contact.
- **Homematic IP Alarm Sirens - indoor or outdoor**
  The alarm sirens issue reliable loud acoustic and visual signals in the event of an alarm. Install the Alarm Siren – indoor in your home such that the alarm sound can be heard clearly by all inhabitants in the event of alarm.
  The Alarm Siren - outdoor has a sustainable energy supply thanks to the integrated solar cell and can be mounted flexibly and easily on the wall outside, out of reach of burglars.
- **Homematic IP Key Ring Remote Control – alarm**
  Besides the app, the key ring remote control offers a very comfortable possibility to activate or deactivate alarm functions or to control light functions within the radio range of the device. The number of remote controls used depends on the number of persons in your household.
- **Homematic IP Pluggable Switch and Pluggable Switch and Meter**
  If you use a Homematic IP Pluggable Switch or a Homematic IP Pluggable Switch and Meter in connection with and indoor siren within your security solution, position the device as centrally in your house as possible so that all inhabitants in your home can hear the siren and the

deterrence is optimised. When used in connection with switching groups, the installation site depends on the selected group function.

- **Homematic IP Wall-Mount Remote Control**
  The wall-mount remote control switches the panic light It can be mounted such that it can be reached and confirmed immediately in the event of an alarm (e.g. beside your bed).

In addition to devices for monitoring movement in the home, the Homematic IP range features other components such as water detectors that increases the safety of your home even more:

- **Homematic IP Water Sensor**
  The water sensor reliably detects moisture and water build-ups from a depth of 1.5 mm (e.g. in the bathroom or basement) via measuring probes on its underside. The Water Sensor (HmIP-SWD) is equipped with two types of sensors. The first detects the presence of moisture, even if no standing water has yet formed, while the second detects a water build-up from a depth of 1.5 mm or more. Via the integrated siren, a loud alarm signal is emitted immediately and a push-notification with an alarm message is sent to the smartphones of the inhabitants. A tilt sensor detects and reports any unwanted motion or manipulation. Alarm configuration and the triggering behaviour of the water sensor can easily be adjusted to your personal preferences using the free app. For further information about configuring the water sensor, please refer to the next section.

9.2.1 Configuration of the Homematic IP Water Sensor (HmIP-SWD)

For the configuration of the water sensor, please proceed as follows:

- Select the water sensor in the device list of the app. You can select between different configuration possibilities.

Allocation

You have already assigned your water sensor to a room during pairing. If you want to position the water sensor in another room, you can change the room allocation here.

Trigger for the acoustic alarm

Here, you can define the trigger for the acoustic alarm of the device.

- No acoustic signal: When selecting this option, no acoustic signal is triggered.
- Humidity detected: An acoustic signal is triggered only if humidity is detected.
- Water detected: An acoustic signal is triggered only if water of at least 1.5 mm is detected.
- Water or humidity detected: An acoustic signal is triggered, if water or humidity are detected.

Trigger for acoustic alarm via alarm siren

This menu item is only displayed when using a Homematic IP Alarm Siren (HmIP- ASIR-2).

In addition to alarming via the integrated siren, the water alarm can also be signaled via the Homematic IP Alarm Siren (HmIP-ASIR-2) at any other location in the home. Here, you can define the trigger for the acoustic alarm of an additional alarm siren.

- No acoustic signal: When selecting this option, no acoustic signal is triggered via the alarm siren.
- Humidity detected: An additional acoustic signal is triggered only if humidity is detected.
- Water detected: An additional acoustic signal is triggered only if water of at least 1.5 mm is detected.
- Water or humidity detected: An additional acoustic signal is triggered, if water or humidity are detected.

Duration of the alarm signal

Use this menu item to define the duration of the alarm signal.

- Select the desired duration (permanently, 3 minutes, 6 minutes or once per minute) in the menu.

Alarm signal

Via this menu item you can select between nine different signal tones for acoustic signalling via the Homematic IP Water Sensor or deactivate the acoustic signalling.

- Select the desired signal tone in the menu. You can select "Off" to deactivate the acoustic signal.

Alarm in the app

In this menu item you can deactivate the alarm in the app or determine under which prerequisites an alarm in the app is to be triggered.

- Select the desired option in the menu.

Even with deactivated alarming in the app, the conditions can still be used in the automation function.

If you deactivate alarming in the app for the Homematic IP Water Sensor, the protection mode of the security solution (presence or absence mode) is not affected and remains activated.

9.3 Alarm messages in the app

By sending push messages to the smartphone, the Homematic IP app offers reliable alarms – even when you are en route. In alarm situations, the message is sent directly to the smartphones of the users even if the app was not actively opened.

With Advanced Routing, Homematic IP adds the advantage of additionally securing the system. If a Homematic IP Access Point (HmIP-HAP) should fail or be destroyed during a break-in, for example, a second access point within range automatically takes over its function thanks to Advanced Routing. This second access point now takes over the routing and re-establishes the connection to the cloud within a very short time. This ensures the functionality and accessibility of the system at all times. More information about Advanced Routing can be found in section *"Homematic IP Advanced Routing" on page 18*.

Please keep in mind that your smartphone requires an active internet connection to receive push messages. Alarm messages which are triggered while your smartphone has no internet connection can only be delivered once your smartphone is again connected with the internet.

It is distinguished between a burglar alarm and a hazard alarm.

Burglar alarms are triggered, for example, via activated motion sensors or window contacts. For this, it is necessary to activate the protection mode, thus the absence mode or the presence mode. If movement is detected after activation – e.g. in case of a burglary – the user immediately receives a message on the smartphone.

Hazard alarms are detected at any time and transmitted to the user. Activation of the protection mode is not necessary for this. Hazard alarms include, for example, water occurring which is detected by a water sensor.

You can determine individually which **alarm messages** you want to receive by push message.

- Open the main menu and tap on Settings, Notifications, Messages.
- Select among the message options for
  - Battery voltage low
  - Smartphone added
  - Maintenance work
  - Protection mode changes (will be effected when the protection mode presence or absence is activated or deactivated)
  - Alarms and activation errors for the protection mode (is effected if e.g. the activation of a function or device settings failed)
  - Humidity warning

You can individually configure the **alarm sound** for your smartphone upon receipt of a message in case of an alarm.

- Open the main menu and tap on Settings, Notifications, Alarm sounds. Different sounds are here available to you.

9.4 Alarms via Homematic IP devices

Thanks to the direct link between the devices, Homematic IP provides the advantage that the communication between sensors and actuators is ensured even if there might be no connection to the internet or to the cloud. This is particularly advantageous concerning devices with security applications.

If, for example, you have installed a Homematic IP motion detector and an alarm siren in your system, a direct link between both devices will be automatically generated during pairing. If movement is then subsequently detected by the motion detector while the protection mode is activated (e.g. presence mode), the alarm siren will automatically trigger a loud alarm. Even if, for example, a burglar were to destroy the access point or router, the link would remain active and you would be warned in good time upon motion detection.

With security solution devices, it is recommended not to establish any links between devices via automation, since such links always require an active connection to the cloud as well.

9.5 Activate alarm mode

After you have paired the devices for the security solution using the app, the symbol for the protection mode is displayed in light blue on the app's home screen. Via this symbol you are able at any time to quickly select the alarm mode (disarmed, presence mode, absence mode).

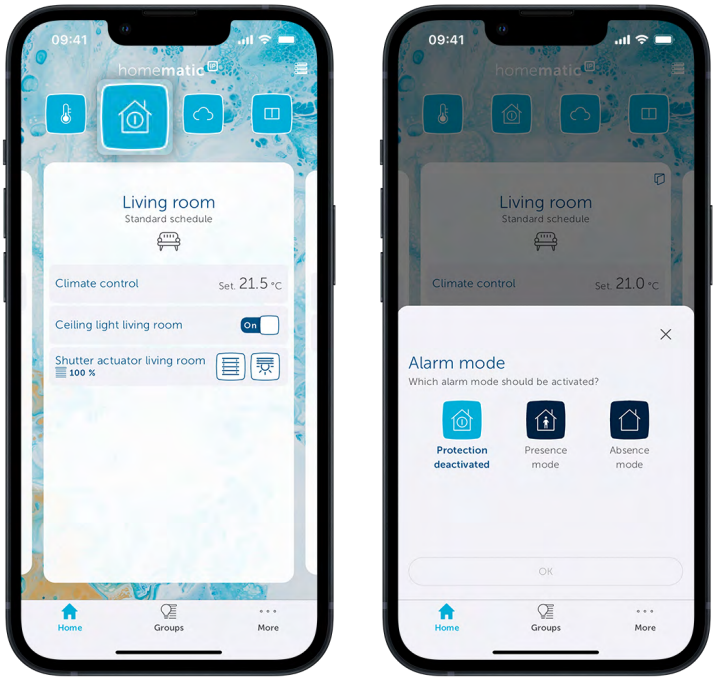


Figure 28: Select alarm mode

- Tap on the alarm mode symbol.
- Select the desired alarm mode by tapping on the corresponding symbol.
- Confirm your selection with “OK”.

Protection deactivated:
The alarm mode of the system is deactivated. All security functions are deactivated.

Presence mode:
The security functions of all devices that you have selected for the presence mode are activated.

Absence mode:
The security functions of all components of the security solution are activated.

As soon as an alarm mode is triggered during activated presence mode or absence mode, e.g. in case of unauthorised opening of windows and doors or detected motion via the motion detector, you are immediately informed by a push notification on your smartphone with an alarm message. The alarm message indicates which device triggered an alarm and at what time.
It will here be distinguished whether a burglar alarm or a hazard alarm is concerned. Burglar alarms are only detected if the protection mode was activated. Hazard alarms, such as due to water damage, are recognised at all times.

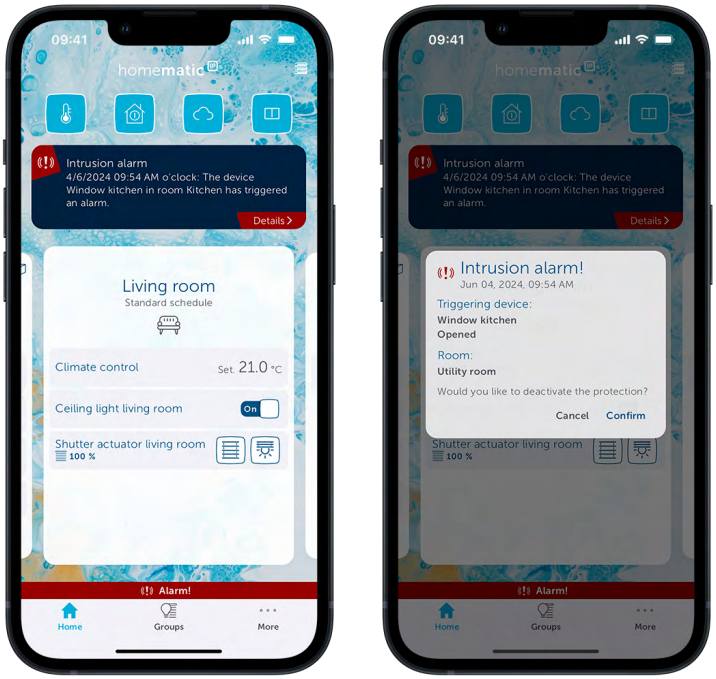


Figure 29: Security mode settings

- Tap on the button “Cancel” to close the alarm message and to leave the previously selected protection mode activated.
- Tap on the button “Confirm” to close the alarm message and deactivate the protection mode.

If you tap on "Cancel" in the alarm message, the alarm will be deferred. This will block new incoming alarm messages. You will thus receive no further push notifications and in-app notifications in the event of a new alarm.

If you have integrated an alarm siren into your system, an additional alarm sound is triggered via the siren in accordance with the alarm message on your smartphone.

If in a system using multiple smartphones an alarm message has already been confirmed by another user, said alarm message will be shown with a grey background on all other smartphones.

9.5.1 Security information in the menu item “Security”

Via the menu item “Security” you can check the security status of a selected room also while you are away from home. You are informed about the type of protection mode (protection deactivated, presence mode, absence mode) an the active of inactive sensors, depending on the pre-defined protection mode.

- In the homescreen of the app, select the room for checking the security status.
- Tap on the "Security" favourite in the room tile. Alternatively, tap on the top area of the room tile and select the "Security" tab in the room menu.

From here, you can access further information at any time using the tabs available for the room at the top of the screen. Alternatively, use the left arrow to return to the home screen.

9.6 Configure security solution

After setting up the access point *(see Section "5.1.3 Set up your control unit or access point" on page 22)* and pairing the security components *(see Section "5.3.6.1 Pairing devices" on page 33)* , please select in the next step in which application you want to use the paired device. By selecting the option "Security", these devices are available for security functions.

Pair the device in the main menu via "Pairing devices". After registration at the access point, the assignment options of the device are requested.

- If you are offered this option, select by tapping on one or more symbols in which **solution** you want to use the device and tap on "Continue".

For devices that are used for the security solution only, e.g. the alarm siren, this step is skipped as the device is assigned automatically.

- If the option is displayed, select the room in which you want to use the device.
- Enter the device name and tap "Continue". You can optionally supplement the device name automatically generated by the system or assign a new name.
- After pairing has been successful, tap "Done".

Please provide further configuration of your security components via the main menu under "Security" through the menu items **Alarm configuration**, **Light configuration** and **Presence mode** (see below).

Some devices can be used in several applications at the same time. When correspondingly selected, the Homematic IP door and window contact can, for example, take over functions in heating control as well as security functions. If required, you can subsequently change or delete again, at any time, the allocations already selected via the device overview.

For a pluggable switch or a pluggable switch and meter that you want to use for light control within the security solution, select the option "Light and shading"

9.6.1 Alarm configuration

This menu offers an overview about the current configuration of the alarm functions of your security solution as well as individual, demand-based configuration possibilities.

Alarming mode

In the menu item 'Alarming mode', two options are available: For both options, the Homematic IP Access Point must be online at the time of arming:

- Alarming pro: This mode is set as default and should not be changed. The alarm mode - presence as well as absence mode - can be activated only via the app or the key chain remote control – alarm (HmIP-KRCA) – if all sensors are in normal mode (e.g. window closed, housing cover mounted, or the like) and within the wireless range. If the battery status of one of the devices is low - this will be displayed in the homescreen of the app - the batteries of the corresponding devices have to be replaced.
  If an alarm siren (HmIP-ASIR) is used, it will be triggered even if there is no connection to the Homematic IP cloud (with a delay of 10 seconds). You will receive a push notification with an alarm message on your smartphone as soon as the connection to the Homematic IP cloud is active again.
- Alarming basic: The alarm mode can be activated via the app or key ring remote control – alarm (HmIP-KRCA) if single sensors cannot be activated (e.g. if a window is open, the device cover is not mounted or a device is not within the wireless range, etc.). If an alarm siren (HmIP-ASIR) is used, it will be triggered only if an active connection to the Homematic IP cloud is established. It is recommended to use the mode "Alarming pro" as a default setting in order to ensure reliable alarming.

The alarm mode "Presence/Absence" can be activated using "Alarming pro" only via the app, if all security-relevant Homematic IP devices are updated with the current firmware versions offered. After tapping on the main menu symbol, information about the offered device updates can be found in the menu item 'Device updates'.

Via the Homematic IP Key Ring Remote Control - alarm (HmIP-KRCA) you can also deactivate the alarm mode in the event of an inactive connection to the access point. This ensures that the security solution works properly even when the Internet connection is inactive.

Silent alarm:

If the silent alarm is activated, the indoor siren and the alarm light will not be triggered. In case of alarm, the system does only send a push-notification to the app.

Delay in arming the alarm system:

In this menu item you can define the delay for activating the protection mode of the system. A delay in arming the alarm system makes especially sense if you leave the house via an area that is monitored by a motion detector or where a window/door contact is mounted on the front door.

Alarm sirens - indoor:

This menu item allows you to configure the settings for your indoor siren(s).

Duty cycle of the siren:

You can here determine the duty cycle of the indoor siren. The default setting is 3 minutes; other options to choose from are 4, 5 and 6 minutes.

Alarm signal (acoustic)

Under this menu item you can select from among nine different signal sounds for acoustic signalling by the Homematic IP alarm siren; and acoustic signalling can also be deactivated.

- Select the desired signal tone in the menu. You can select "Off" to deactivate the acoustic signal.
- Save your setting with "✓".

The app automatically returns back to the menu item "Alarm sirens - indoor".

After tapping on "Test alarm" after selection of the sound, the alarm siren plays the selected signal sound with a function check.

Alarm signal (optical)

You can select between four light signal variants or deactivate the optical alarm signal.

- Select the desired light signal in the menu. You can select "Off" to deactivate the optical signal.
- Save your setting with "✓".

The app automatically returns back to the menu item "Alarm sirens - indoor".

If you tap "Test alarm" after selecting a light signal, the alarm siren shows the selected light signal for function check.

Acoustic confirmation of the siren:

After activating this option, the siren confirms the change of the protection mode with a short sound sequence.

Alarm Siren – outdoor

You have the option to configure the alarm sirens for inside and outside separately from each other. You can configure the settings for your outdoor siren(s) under this menu item. You will have the same menu items at your disposal as for the alarm siren - indoors.

9.6.2 Presence mode

In this menu item you can select the Homematic IP security components that are used for the presence mode.

- Tap "Envelope protection" in the "Security" menu.
- Select the components listed under the individual rooms that you want to use for envelope protection and save the setting with "✓".

10 SHUTTER CONTROL

Shutters and blinds darken rooms; they create a sense of privacy and increase security. With our shutter and blind actuators, the window coverings can be set up with just a few turns of the hand via the Homematic IP app. Afterwards, they can be raised or lowered automatically.

The actuators are conveniently controlled via individual week schedules that also factor in sunrise and sunset. Furthermore, active shutters and blinds make the home look inhabited even if you are not at home. In addition to the anti-burglary effect of shutters, our solution thus actively increases security. Another advantage: In case of increased room temperatures due to strong sunlight shutters or blinds are automatically lowered to prevent the room from heating up.

The Homematic IP blind actuators also allow the exact adjustment of the slats position of exterior and interior blinds. If necessary, awnings can also be integrated into the smart home using our products. The automatic storm protection avoids damages of shutters, interior blinds and awnings during unfavourable weather conditions and thus raises or lowers the window coverings. To protect windows and doors it is also possible to move down blinds and shutters automatically.

10.1 The benefits

Shutters, blinds and awnings fulfil a wide range of important functions. **Shutters** protect your windows from the effects of wind and weather. They provide reliable visual protection and thus offer increased privacy. Furthermore, they avoid unnecessary thermal loss during winter as well as excessive heating of rooms in case of strong sunlight. Thanks to the additional noise protection, the shutters also support a relaxing sleep in case it might be loud outside. And, in addition, thanks to the anti-burglary effect of shutters, they can increase the feeling of security in your home.

Exterior and interior blinds offer very flexible privacy protection and thermal insulation as they are not only moved up and down, but also the position of the slats can be adjusted. This also provides precise regulation of the amount of light that comes into a room. They are available in a large number of variants, offering lots of space for individual design possibilities. In addition, they can be adjusted even to unusual window sizes.

Awnings protect your terrace or conservatory against excessive solar radiation, offering comfortable stay even on hot summer days. In addition, rain-resistant awnings offer protection also against rain and thus make it possible to stay outside even during unfavourable weather conditions. Awnings are available in a large number of different designs and can therefore be perfectly adjusted to the individual surroundings.

10.2 Installation instructions

Which kind of shutters/blinds can be controlled using the Homematic IP Shutter and Blind Actuators?

All kind of shading elements that are provided with an electronic tube motor drive and offer a conventional series switch or two wires (one for moving up, one for moving down) can be controlled comfortably with the Homematic IP Shutter and Blind Actuators.
Please note while planning your installation, that **Homematic IP Shutter Actuators** can only be used for controlling the hight of shutters and the degree of extensions for awnings.
The **Homematic IP Blind Actuators** offer this function as well, while also making it possible to adjust the slat position of interior blinds or exterior blinds for outside areas.

How can Homematic IP Shutter and Blind Actuators be controlled?

Depending on the size of your system, Homematic IP offers various possibilities for automatic control of your shading elements. When using Homematic IP Shutter and Blind Actuators, you can equip your existing switch with an intelligent wireless solution. However, you can still control your shutters, blinds and awnings by **conventional switches** . Furthermore, it is possible to move you shutters up or down comfortably via **remote control**, even without having to get up from your armchair.

Shutter profiles in the app enables time-depended automatic control, if required also depending on the sunrise or sunset.
Via **shutter groups**, comfortable simultaneous control of selected or even all shutters and blinds can be realised via the app.
Even if you are away from home, you can control your awnings, blinds and shutters via the Homematic IP **app** on your **smartphone** at any time. In this way, you will always have ideal shading conditions when coming home. Automatic and manual control via the app make the house look inhabited even if you are not at home and thus control the security in the own four walls.
Added comfort is given by **voice control** for shutters and blinds in connection with voice control service *(see Section "15 Voice control and additional services" on page 130)*.

Is it possible to retrofit existing shutter solutions with Homematic IP Shutter and Blind Actuators?

Yes, retrofitting with Homematic IP actuators is possible. The Homematic IP shutter control solution can be realised not only in new buildings or while planning to equip the house e.g. with new blinds. Also, existing shutter solutions that are controlled via conventional push-buttons can easily be retrofitted by a smart wireless solution. Therefore, you only have to replace the existing push-button or expand it using a flush-mount module.

How can I combine the shutter and blind actuators with other Homematic IP components?

You can comfortably extend the functions of your shutter and blind control with other Homematic IP devices and adjust it to your individual needs.
By integrating the **Homematic IP Window Contacts** into your system you will be able to activate the **lockout protection**. If balcony or terrace doors are opened, it is avoided that shutters and blinds are moved down automatically as they are controlled based on time or astro profiles *(see Section "10.5.1 Lockout protection" on page 98)*.

Homematic IP wall thermostats for indoor use (e.g. HmIP-WTH-1 and HmIP-STHD) always determine the exact temperature of a room. If desired, shutters and blinds are moved down automatically via the **heat protection function** that protects a room from overheating *(see Section "10.5.3 Heat protection" on page 99)*.

For installations in which awnings are controlled via the Homematic IP Shutter Actuator or Blind Actuator, we recommend a combination with the **Homematic IP Weather Sensor**. The **rain protection function** then makes it possible to automatically retract awnings as soon as rain is detected by the sensor.

10.3 Putting shutter and blind actuators into operation

To integrate your shutter/blind actuator into your system and enable it to communicate with other Homematic IP devices, you must add the device to your Homematic IP access point first *(see Section "5.3.6.1 Pairing devices" on page 33)*. Afterwards, an automatic calibration run is carried out to adjust your shutter/blind.

10.3.1 Calibration run

10.3.1.1 Automatic calibration run (HmIP-BBL-I)

After you have entered a name for your shutter/blind and allocated it to a room, you will get to the menu item “Automatic calibration run”. The calibration run will determine how long your shutter/blind needs to completely move up or down.

Please note that the automatic calibration run is only available for the Homematic IP Blind Actuator for Brand Switches - international (HmIP-BBL-I).

The hanging level setting is automatically corrected by the actuators. With certain slat positions, it is possible that the set hanging level of 0% or 100% cannot be approached as desired. This is due to the fact that in some cases the actuator must automatically adjust the hanging level so that the desired slat position can be set.

The travelling times determined during the manual calibration run also include the motor delay time. This extends the actual travelling time from the upper to the lower end position and vice versa by the motor delay time. This affects the setting of the hanging level, as this is derived from the travelling time. If necessary, adjust the times in the menu item "Compensation for motor start delay".

- Tap on "Continue". The automatic calibration run will be started.
- After the automatic calibration run has been successful, tap “Done”. Thus, the movement times have been detected.

Please make sure that you do not use your app or the device during automatic calibration run.

10.3.1.2 Manual calibration run

As an alternative to the automatic calibration run you can determine the movement time of your shutters/blinds automatically. When using a Homematic IP Shutter Actuator – flush-mount (HmIP-FROLL) or Homematic IP Blind Actuator – flush-mount (HmIP-FBL), the calibration run is carried out manually by default. To do this, proceed as follows:

- Following pairing of the actuator, tap on "calibration run".
- Tap on "Continue". Your shutter/blind element is moved to the initial position (completely darkened). If the initial position is reached and the motor stops, tap on “Continue”.
- Tap on “Start”. You shutter/blind is moved up completely. If the run is finished confirm the time that is needed for the brightening run right after the motor is switched off by pressing the “Stop” button.
- To detect the time needed for the darkening run, tap on “Start”. Your shutter/blind element is moved down completely. If the run is finished confirm the time that is needed for the darkening run right after the motor is switched off by pressing the “Stop” button.
- The recorded movement times will then be displayed to you. Tap on "Continue". The movement times are transmitted to the actuator as soon as the calibration is finished in the next window with a tap on “Done”.
- You still have the option to adjust the movement times manually. The data is transferred after tap on “Done” or “Confirm”.

Tap on the button “Direct entry” in the menu item (manual) “Calibration run” to directly enter the movement times for the darkening and brightening run. Tap “Confirm” to save the selected movement times directly. In the following window, you can finish the calibration with a tap on “Finish”.

10.3.2 Device settings

The device settings for shutter and blind actuators give you the option of making individual settings for your shading control. Subsequently, please find information on the individual configuration options.

Movement times

After tapping on "Direct entry", you can here subsequently change the movement times of the shutter/blind element. This is the time that is required for your shutter/blind element to completely move up (brightening run) or down (darkening run).

Slats movement time

Adjust the time that is required for completely changing the slat position of the blinds. This function is only available for blinds actuators (not for shutter actuators)

Operating mode

This function is only available for blinds actuators (not for shutter actuators) Via the operating mode can be defined whether the display for controlling the slats positions is to be effected with blinds actuators or not.

Compensation for the delay of motor start

This allows to set a delay time for running the motor (max. 12.6 seconds), where necessary. By default this value will be automatically determined.

Delay for changing the movement direction

Here, you can subsequently define the delay time that is at least needed for your shutter/blind to change the movement direction.

Selecting favourite position

This menu item allows for setting a favourite position for specific third-party remote controls that are compatible with Homematic IP.

10.3.2.1 Manual control of shutter elements in groups

To control shading elements manually, proceed as follows:

- In the home screen of the app, tap on “Groups” and select the desired shutter group.
- Here you can define the shutter level of all shutters and blinds that are combined in this room.

10.4 Shutter schedules

Via the Homematic IP app you can create individual shutter schedules and control your shutters/blinds flexibly and according to your needs - even depending on the sunrise and sunset.

10.4.1 Creating time schedule

- In the main menu under “Light and shade”, select the menu item “Time schedules”.
- Subsequently, tap on the + symbol and select the option “Shutter schedule”.
- Enter the name of the shutter schedule. Tap on "OK".
- Then select all the shading actuators that you want to assign to this shading profile under "Allocated devices" using the "+" icon.
- Save your selection with „✓“.

Selection “Switching time”

- In the overview, select the menu item “Time profile” and then tap on the “+” icon.
- Select "Switching time" in the following selection.
- Select the weekday(s) to which to the corresponding switching time should be applied.
- Subsequently, select the switching time and the hanging level to which your shutter or blind

element should be moved at the selected switching time. If your blinds are controlled by a blind actuator, you can also exactly adjust the slats position which your blinds are to take at the defined switching time.

Selection “Sunrise” / “Sunset”

You can also add a time-depended condition to to your set switching times:

- **No condition:**
  If you select the option “Sunrise” or “Sunset” for your shutter schedule instead of a switching time, your shutter/blind element is moved to the defined position at sunrise/sunset if you selected the option “No condition”.
- **Earliest at:**
  If you select the option “Earliest at”, your shutter/blind is moved into its defined position at sunrise, but not earlier than the selected point in time. Alternatively, you can define how many minutes before or after the sunrise your shutter/blind element is to move into its selected position, e.g. 30 minutes before sunrise, but earliest at 06:00 o’clock.
- **Latest at:**
  If you select the option “Latest at”, your shutter/blind is moved into its defined position at sunset, but latest at the selected point in time. Alternatively you can define, how many minutes before or after the sunset your shutter/blind element is to move into its selected position, e.g. 30 minutes after sunset, but latest at 21:00 hrs.

After configuration of the shutter schedule you can create additional shutter schedules with a tap on the + symbol.

Even after your Homematic IP device has been restarted (for example after a battery change or device update), the device's last profile status is now automatically restored. For example, a shading actuator's last selected time profile will continue to be run after the restart.

10.5 Shutter configuration

After pairing the shutter and blind actuators *(see Section “5.3.6.1 Pairing devices” on page 33)* you have the option to adjust the further configuration of your shutter/blind components in the main menu under “Light and shade” via the menu item “Shutter configuration”.

To be able to use the functions for shutter configuration, the following components are required for the single settings:

- **Lockout protection:**
  Homematic IP Shutter and Blind Actuators, as well as Homematic IP Window and Door Contact and Window Handle Sensor
- **Storm protection:**
  Homematic IP Shutter or Blind Actuator and wind data via the location in your app or the Homematic IP Weather Sensors
- **Heat protection:**
  Homematic IP Shutter or Blind Actuators as well as Homematic IP Wall Thermostat or Temperature Sensor
- **Rain protection:**
  Homematic IP Shutter or Blind Actuator as well as Homematic IP Weather sensor – plus or pro.

Please note that for this function the Homematic IP system has to be fully operational. This includes the Homematic IP access point with active connection to the Homematic IP cloud and the corresponding Homematic IP devices that are integrated into the installation.

10.5.1 Lockout protection

With opened balcony or terrace door, the lockout protection will prevent unwanted automatic downwards movement of shutters and blinds which are controlled as a functionof time or, respectively, depending on sunrise/sunset. This is useful for example in the while if you are outside on the terrace for a longer time and you want to avoid unintended lockout in case your shutter is moved down.
A Homematic IP Window and Door Contact mounted to the corresponding door or window detects whether the door/window is open and ensures that your shutter or blind element is not lowered.

Please note that lockout protection does not prevent downward movement of shutters and blinds, if such downward movement was triggered manually (e.g. via a switch or remote control) or by automation.

To activate the lockout protection, please proceed as follows:

- In the menu item “Shutter configuration”, tap on “Lockout protection”.
- By tapping on the + icon, select the actuator(s) controlling the shutter or blind element for which the lockout protection is to be activated.
- Tap on “Next” and allocate the shutter or blind actuator to the window or door contact which activates the lockout protection and thus prevents the shutter or blind element from being lowered.
- Tap on "Done". The configuration of the lockout protection is thus concluded.

If the corresponding window is open during the configuration of the lockout protection, the lockout protection only takes effect after the window has been closed and opened again.

Please note that skipped switching times will not be repeated.

10.5.2 Storm protection

In case of strong wind it is important - also for insurance reasons - to protect shutters, awnings and blinds as well as windows effectively from any damages caused by the weather.
Depending on the wind resistance class of the blinds installed, they must be moved up completely in case of a storm. Conventional shutters can be moved down in case of strong wind to protect the windows from storm damage.
The storm protection function integrated in the Homematic IP app ensures that this is carried out automatically as soon as a selected wind threshold value is exceeded. The current wind velocity value is obtained by the app via the weather data that is defined in the app for the online service OpenWeatherMap for your location. Alternatively, the data is measured via Homematic IP Weather Sensors.

Set the location in your app to enable correct data collection for your installation. Tap in the menu on “Settings” and there on “Location + Time zone” to adjust your location settings by entering your town/city or postcode.

To activate the storm protection function, please proceed as follows:

- In the menu item “Shutter configuration”, tap on “Storm protection”.
- Tap on the +-icon to select the shutter actuator(s) that you want to activate for the storm protection.
- Save your selection with „✓“.

You can adjust further settings for the storm protection afterwards.

- Via the button “Wind sensor - Online weather data” you can define the data source for the detection of the wind threshold value. In the default settings, these are based on the weather data collected in the app for your location via OpenWeatherMap. If you have installed a wind/weather sensor, it will also be available to you as a data source.
- Tap on the button “Wind threshold value”. Select the wind threshold value at which the shutter or blind element should be moved if the threshold is exceeded.

- Save your setting with "✓".
- Select the movement direction. When selecting "move up", the shutter or blind is moved up. The same applies for the option "move down".
- Save your setting with "✓".

If the value falls below the defined wind threshold, the shutters and blinds elements remain – until the next switching time in the time schedule – in the position it moved to during the storm protection.

If lockout protection or the escape function have been activated the storm protection cannot be activated.

Please note that the wind velocity of the online service may differ from the current weather conditions at your location as the data is based on calculations of the nearest measuring stations and is not updated live.

Please note that skipped switching times will not be repeated.

10.5.3 Heat protection

The heat protection function enables automatic control of shutters and blinds to avoid or reduce unintended heating due to strong sunlight. In this way, your rooms remain cool also during summer. When exceeding an adjustable temperature threshold value, shutters, awnings or blinds are moved into a predefined position. In addition, it can be defined via th app, in which time period the heat protection is to be activated, e.g. to prevent that shutters are moved up during night.

To activate the heat protection function, please proceed as follows:

- In the menu item "Shutter configuration", tap on "Heat protection".
- Tap on the +-icon and select one or more rooms for which you want to configure the heat protection function. Only rooms are displayed that include the necessary devices.
- Save your selection with „✓".

You can adjust further settings for the heat protection afterwards.

- The function "upper threshold value" can be used to define from which degree (Celsius) the shutter or blind is moved into the position defined.
- The function "lower threshold value" can be used to define at which room temperature the shutter or blind is moved into the previously set normal position.
- Tap "shutter position" to define the value in percent to which the shutter or blind is moved.
- In the menu item "Time period". you can define in which period of time the heat protection is activated. You can either select "Sunrise" or "Sunset" so that the heat protection starts with the sunrise or sunset that currently applies for your location. Alternatively, select the desired time of day here.
- Save the settings with "✓".

The time schedule is active simultaneously and, like manual operation, has priority over the settings of the heat protection. Settings you have configured in the app for heat protection, will only become effective if you selected the mode "Automatic operation" under "Time schedules" for the shutter/blind elements.

If lockout protection, storm protection or the escape function have been activated, the heat protection cannot be activated.

The heat protection can only be used in connection with indoor temperature sensors (e.g. HmIP-WTH-1 or HmIP-STHD).

10.5.4 Rain protection

The rain protection function enables the automated retraction of awnings if rain or snow starts to fall[4]. The awnings will be fully retracted, as soon as a rain sensor starts to detect rain. The app can be used to determine the direction of movement in this event. Once the shutter or blind actuator has moved the element to the respective position following the detection of rain or snow, the actuator will retain this position and will not move back automatically. Renewed extension will be prompted by manual operation via the app.
To activate the rain protection function, please proceed as follows:

- In the menu item “Shutter configuration”, tap on the button “Rain protection”.
- Tap on the +-icon and select one or more shutter or blind actuators for which you want to configure the rain protection.
- In the next step, please select a rain sensor.
- Save your selection with „✓“.
- Determine the desired direction of movement.

4 Snow detection possible via the HmIP-SRD

11 LIGHT

Comfortable switching and dimming of lights creates a sense of well-being at your home. A comfortable atmosphere for your TV evening can be created e.g. via app as the ceiling light is switched off while the floor lamp is dimmed to the desired brightness level. Also, the sense of security is increased with an illuminated driveway or house façade in the evening. Homematic IP products for light control can easily be integrated into the installations in your home since existing frames and rockers from a large range of brand switch series can continue to be used.

11.1 Installation instructions

The Homematic IP switching and dimming actuators offer various possibilities for light installations in your home. With different designs, the devices can be flexibly integrated and afterwards be controlled via smartphone, remote control push-button or via motion and presence sensors.

Is it possible to integrate the devices into my existing installation.

Retrofitting of switch, metering and dimming with Homematic IP is easy and flexible thanks to different designs such as pluggable switches or flush-mounting devices.
Special comfort is offered in the application of switch and dimming actuator for brand switches (HmIP-BSM and HmIP-BDT). The adapters for different switches allow you to replace switches made by popular manufacturers with an intelligent Homematic IP installation. Using existing or planned switches and cabling reduces the cost of installation to a minimum. The design, colour and finish of switches that have already been installed does not change, since the existing frames and rockers can continue to be used.

Homematic IP switch actuators can be used not only in inside rooms but also in outdoor areas. Simply mount e.g. the Homematic IP Switch Actuator and Meter – flush-mount (HmIP-FSM) into an appropriate surface-mounting box (e.g. Abox 025 or Abox 040).

Which light sources can be dimmed with the Homematic IP Dimming Actuators?

The dimming actuators enable the dimming of standard incandescent lamps, HV and LV halogen lamps with electronic transformer and dimmable energy-saving lamps as well as dimmable LEDs.

11.2 Configuration of the light solution

After pairing the lighting components, *(see Section "5.3.6.1 Pairing devices" on page 33)* select the option "Light" to allocate your device to the lighting solution.

For devices that are used for the light solution only, this step is skipped as the device is assigned automatically.

You can further configure your lighting solution via the main menu using the menu items *"7.1 Groups (links)"* and *"7.3 Time schedules"*.

11.2.1 Create switching schedule/ time schedule

With the "Time schedules" function you can set up switching schedules for your light control You can thus switch on and off e.g. switching actuators at certain periods of time or depending on sunrise and sunset. Or you can use dimming actuators to dim lights for defined periods of time to a desired brightness value.

To create a switching group, proceed as follows:

- Select the "Time profiles" menu item under "General settings" in the main menu.
- Subsequently, tap on the "+" icon and select the option "Switching profile".
- Enter the name of the switching schedule. Tap on "OK".

Devices:

- Under "Allocated devices", use the "+" icon to select the switching actuators that you want to group together in this switching profile one after the other.
- Save your selection with „✓“.

Profile configuration:

- Tap on "Time profiles" and create a time profile using the "+" icon.
- Here you can choose between "Switching time", "Sunrise" and "Sunset".
- You can now adjust further settings for your time schedule. Tap on “Time schedule” to set-up the switching times and dimming values.

Each device and button pair can be assigned to only one switching schedule.

Selection “Switching time”

- Select the weekday(s) to which to the corresponding switching time should be applied.
- Afterwards, select the switching time and the switching status (on/off) of your actuator to the selected switching time.

Depending on the connected devices, you also have the option of configuring a dimming value and a dimming time (e.g. with HmIP-BDT), a colour, a colour temperature and a light scene (e.g. with HmIP-RGBW).

Selection “Sunrise” / “Sunset”

You can also add a time-depended condition to to your set switching times:

- **Time offset:**
  Select a time from between 125 minutes before ("-") to 125 minutes after ("+") sunrise or sunset at which your actuator should switch.
- **No condition:**
  If you select the option “Sunrise” or “Sunset” for your switching actuator instead of a switching time, your actuator is switched into the defined status at sunrise/sunset, if you have selected the option “No condition”.
- **Earliest at:**
  If you select the option “Earliest at”, your actuator is switched to sunrise; at the earliest, however, to the selected point in time in your defined status. Additionally, you can define via “Time shift”, by how many minutes before or after the sunrise your actuator is to start switching, e.g. 30 minutes before sunrise, but at the earliest at 06:00 o’clock.
- **Latest at:**
  If you select the option “Latest at”, your actuator is switched at sunset; at the latest, however, to the selected point in time in your defined status.

Even after your Homematic IP device has been restarted (for example after a device update), the device's last profile status is now automatically restored. For example, a switching or dimming actuator's last selected time profile will continue to be run after the restart.

Note that a switching actuator's last switching state (on/off) is not automatically restored after a restart. You can define the actuator's behaviour after power is restored in the the respective device's settings under "Action on power supply".

11.2.1.1 Special characteristics regarding switching with motion detectors/presence sensors

Motion detectors and presence sensors are available as triggering devices for switching groups only if the device allocation of the device the application "Light and shade" has (also) been selected.

If a switching group is to be switched via a motion detector or presence sensor, the switch-on time should be at least 4 minutes.

Owing to the dusk sensor integrated into the motion detector or presence sensor, you can select – in the configuration of a switching group – two brightness threshold values for triggering the detector/sensor. You can individually determine a value between 0 and 255. In general, a low preset value means that the motion detector or presence sensor will react in darkness. In case of a higher preset value, it will also react in case of brighter lighting conditions. In addition, you can take over the current brightness value of the surroundings as brightness threshold for the sensor.

The first brightness threshold value indicates the brightness setting at which the sensor is to be triggered. The second value indicates when the sensor is to remain active, i.e. should continue triggering if the light is already switched on. This is to ensure that the motion detector or presence sensor will not be deactivated by the light that it has switched on, and that the light will remain switched on for as long as the detector detects movements.

11.2.2 On/off control in the menu item "Light"

The menu item "Light" can be used to switch light sources and other connected loads in selected rooms on and off: Devices like a floor lamp that are connected to a Homematic IP Pluggable Switch or Switch and Meter can be switched comfortably via the Homematic IP smartphone app, no matter if you are at home or out about.

- Select the room including the device(s) you want to switch on or off in the homescreen of the app.
- Tap on the "Light" favourite in the room tile. Alternatively, tap on the upper area of the room tile and select the "Light" tab in the room menu.
- In the menu item "Light" you can switch on or off the devices that are listed via the buttons – either all devices or each device separately.
- Once you have switched on the devices, you can obtain further information at any time using the tabs available for the room at the top of the screen. Alternatively, use the left arrow to return to the home screen.

11.2.3 Configuration options for motion detectors and presence sensors

11.2.3.1 Brightness filter

If the motion detector/presence sensor detects movement, current brightness is also simultaneously determined. If no motion is detected over a longer period of time, the lowest value of several measurements is ascertained for a determination of the brightness value. In the app, the number of measurements can be specified via the device configuration of the motion detector in the menu item "Brightness filter". The brightness filter has the function to determine the current brightness value as realistically as possible. The more measured values are used, the larger will be the period for determination of the brightness value. The default are "8 measured values". With a non-detected movement, a measurement is taken at an interval of about 6 minutes; in that case, the smallest value determined over a period of about 48 minutes is transmitted as the brightness value. For 7 measured values, the period of time would be about 42 minutes, etc. This has the advantage that short-term brightness fluctuations (e.g. headlights of a passing car) only have a very low impact on the determination of the brightness value. For the use of a motion detector/presence sensor, it is recommended, for instance, to set fewer measured values to keep the period of time for measurement as low as possible and thus taking faster into account any shutters moving upwards, for example.

11.2.4 Minimum transmission interval for motion detection

The motion detector/presence sensor immediately reports the first detected movement. After that, the motion detector remains in the status "motion detected" for a certain period of time. If motion occurs again within that period of time, this motion does not trigger any reporting. Default setting is a transmission interval of 4 minutes which is sufficient for most applications and, at the same time, goes easy on the batteries of the device. The transmission interval should always be smaller than the duty cycle of the lighting. However, for special cases, the transmission interval can be adjusted in the app via the device configuration of the motion detector – under the menu item "Minimum transmission interval for motion detection". This may be, for example, very short desired operating times for lighting. However, it is to be noted here that a reduction of the transmission interval might have a considerable impact on the battery life.

11.2.4.1 Buffer detected movements

If you control the light exclusively with a motion detector/presence sensor, it is reommended to activate the function "Buffer detected movements" in the device configuration of your motion detector. In this setting, the sensor of the motion detector still continues to be active after a detected movement and will report any further movement independent of the selected minimum transmission interval.

Use a motion detector/presence sensor to control light in combination with remote controls by means of which you can manually switch off the light should this function be deactivated. This prevents the light from being switched on again unintentionally.

11.2.5 Light configuration

In this menu, you can configure the light functions for your lighting and security solution.

Alarm light

Define whether and which light sources should be switched on in the event of an alarm.

- In the "Light configuration" menu, tap on "Alarm light".
- Select the devices listed under the individual rooms for switching on connected light sources in case of alarm.
- Save your selection with „✓“.

You can activate one or more devices for this function.

Panic light

Select which light source(s) is/are to be switched when you press the wall-mount remote control that is assigned to the panic light function.

- In the "Light configuration" menu, tap on "Panic light".
- Select the devices listed under the individual rooms which are to switch on connected light sources upon pressing the wall-mount remote control.
- Save your selection with „✓“.

You can activate one or more devices for this function.

Coming home light

The coming home light which provides e.g. light for dark spots in the entrance area is switched via the light button of a Homematic IP key ring remote control.

- In the "Light configuration" menu, tap on "Coming home light".
- Select the devices listed under the individual rooms which are to switch on connected light sources after pressing the light button of the key ring remote control.
- Save your selection with „✓“.

You can activate one or more devices for this function. The coming home light is switched off again by a long button press of the remote control light button.

11.2.6 Light scenarios

To use light scenes, you need a device that supports this function, e.g. an LED Controller - RGBW (HmIP-RGBW) with a connected RGB(W) strip. Detailed information on installation and set-up can be found in the operating instructions for the respective device. To pair the device, see section ***"Pairing devices" on page 33****..*

Light scenes can be set via the Homematic IP App and via a remote control. Control is also possible via the automation.

You can use the "Light scenes" function in the main menu to manage and create different light scenarios and thus achieve different lighting moods in your home. A light scene is a sequence of colour and dimming values, so-called markers. There are eight predefined standard scenes that you can activate, deactivate and customise. Two further scenes are freely configurable.

The following ten light scenes are available to you:

- **Camp fire**: red-orange flickering for a cosy camp fire atmosphere
- **Rainbow**: changing play of light in the colours of the rainbow
- **Sunrise**: soft and warm morning colour gradations, perfect for waking up
- **Sunset**: calm evening light mood for falling asleep
- **Waterfall**: water-blue ambient lighting with flowing transitions
- **Forest**: lush green lighting for a forest bath in your own four walls
- **Flashing red**: red-green flashing. Suitable as a visual signal for linking to a telephone, for example for people with hearing impairments
- **Greens swirls**: aurora ambience in the green-blue colour spectrum
- **Create new light scene**: freely configurable
- **Create new light scene**: freely configurable

11.2.6.1 Configuring light scenes

If you want to configure a light scene, proceed as follows:

- Open the Homematic IP App and select "...More".
- Select "Light scenes".
- Either tap on one of the existing light scenes or on "Create new scene" to edit a light scene or set up a new light scene.
- Tap in the input field to give the scene a name, e.g. "Sporty".
- Then tap on "Icon" or on the "+" icon next to it to select an icon.
- Tap on "Cycles" to specify how often the light scene should be played back in succession. You can select between 1 and 63 cycles or "Infinite" (∞).
- If the previously existing lighting situation is to be restored after the defined cycles, activate the "Restore status after cycle" option by tapping on the slider. This option is deactivated by default.
- If you want the specified colours to light up in random order, activate the "Random order" option by tapping on the slider.

You can define up to eight colour and dimming values under "Markers". This is also where you can define the sequence of a marker and can specify the fade-in and hold time as well as the colour and dimming value:

- Tap on "New marker" to edit a marker.
- Under "Fade-in time", select how long it takes for the light to fade to the set dimming value.
- Tap on "Dimming value" and select the desired dimming value using the control dial. If you activate the "Always switch on at last set dimming value" option, the light is switched on at the last brightness level reached.

- Tap on "Colour" and specify the desired colour using the colour spectrum. If you activate the "Always switch on at last set colour value" option, the colour value that applied when the light was last switched off will be used.
- Tap on "Hold time" and select how long the colour and dimming value should be held.
- Confirm the settings in the "Edit marker" menu with "✓".

11.2.6.2 Using light scenes

If you want to set a light scene for a device (e.g. LED Controller - RGBW), proceed as follows:

- Open the room to which the device is assigned, e.g. "Living room".
- Tap on the "Light" menu item.
- Tap on the device name and then on the Play/Pause icon "⏯" to open the light scenes.
- Tap on the desired light scene, e.g. "Camp fire".
- Use the control dial to set the desired brightness.

The desired light scene is now set for the device. This will be played as configured when the device is switched on.

11.2.7 Dim-to-warm and dynamic daylight (HCL)

The "Dim-to-Warm" and "Dynamic daylight" functions are only available if you are using a device that supports this function, e.g. an LED Controller - RGBW (HmIP-RGBW) with Tunable White Strip. Detailed information on installation and set-up can be found in the operating instructions for the respective device. To pair the device, see section ***"Pairing devices" on page 33****.*

"Dim-to-Warm" simulates the dimming behaviour of a classic incandescent lamp: if the lamp brightness is very low, a very warm colour temperature is emitted, which can ensure a cosy and comfortable mood. As the brightness increases, the colour temperature increases, with the result that at full brightness, cold and thus subjectively bright light is emitted.

The "dynamic daylight" mode (HCL, Human Centric Lightning) follows the natural course of daylight: Warm light prevails in the morning. As the day progresses towards midday, the proportion of cool white light increases, making it brighter. In the evening, the light becomes warmer again (the warm white component increases). This artificial mirroring of the colour temperature progression can help to increase people's ability to concentrate.

To activate one of the two modes, proceed as follows:

- Open the room to which the device is assigned, e.g. "Study".
- Tap on the device name.
- In the colour selector screen that now opens, tap on "Ⓐ".
- Activate the desired mode by tapping the slider. Both modes are deactivated by default.
- With Dim-to-Warm, you can set the brightness individually: Warm white light prevails at low brightness. The higher the brightness value, the cooler white the light.
- With Dynamic Daylight, the brightness cannot be adjusted. This mode follows a system-defined progression, with a specific cold white/warm white component depending on the time of day.

11.3 DALI gateway

The Homematic IP DALI Gateway can be used to control various types of DALI light source. The DALI Gateway is fully integrated into the Homematic IP system and converts the Homematic IP protocol into DALI or DALI into the Homematic IP protocol.

11.3.1 Pairing the DALI gateway

As with all other devices, integration into the Homematic IP App is possible by entering the SGTIN or scanning the supplied QR code. The DALI gateway starts the pairing process automatically when the power supply is switched on or after a reset to the factory settings. Further information can be found in section *"5.3.6.1 Pairing devices"* or in the device operating manual.

11.3.2 Search for DALI light sources

To integrate the DALI light sources connected to the DALI bus into the DALI gateway, start a manual search for DALI light sources.

If the DALI gateway is being put into operation for the first time, proceed as follows:

- Press and hold the "Select" button twice

If the DALI gateway has been reset or is being put into operation again, proceed as follows:

- Press and hold the "Select" button
- Briefly press the "Channel" button
- Press and hold the "Select" button

During this process, all DALI light sources connected to the DALI gateway are assigned to one of the 32 available DALI channels and are given a new DALI address. Once all the DALI light sources have been integrated, numbering of the DALI channels stops and the magnifying glass symbol on the display of the DALI gateway goes out.

Press "Continue" only when the magnifying glass symbol on the display of the DALI gateway is no longer displayed to ensure that all the DALI light sources on the DALI gateway have been addressed.

11.3.3 Configuration of the DALI channels during initial setup

To configure the individual DALI channels, process as follows:

- Select an active "Out" channel.
- Switch the assigned DALI light source on and off to determine where the corresponding DALI light source is located, then press "Continue".
- Select the room to which the DALI light source is to be assigned, then press "Continue".
- Enter a name for the DALI light source, then press "Continue".
- Finally confirm the assignment with "Done".

11.3.4 Subsequent configuration of the DALI channels

If a DALI light source is connected to the bus and assigned to an active DALI channel, this DALI channel is shown in blue, while unused DALI channels are greyed out.
To configure the individual DALI channels, process as follows:

- Select an active "Out" channel.
- Press "Assign".
- Switch the assigned DALI light source on and off to determine where the corresponding DALI light source is located, then press "Continue".
- Select the room to which the DALI light source is to be assigned, then press "Continue".
- Enter a name for the DALI light source, then press "Continue".
- Finally confirm the assignment with "Done".

11.3.5 Expanding the installation with new DALI light sources

To integrate a new DALI light source into the system after initial configuration, it must first be added to the DALI gateway. In such a case, please ensure that this new DALI light source has not yet been assigned to a DALI address. As standard, newly purchased DALI light sources have not been assigned a DALI address. If an address has already been assigned to the DALI light source, first reset it to the factory settings. Details on this can be found in the operating instructions for the respective DALI light source.

To subsequently integrate the DALI light source, proceed as follows:

- The DALI-specific functions can be activated by pressing and holding the Select button.
- The "🔍" icon flashes in the display.
- Briefly press the Channel button to switch to the menu for searching for unaddressed DALI devices on the DALI bus "🔍".
- Press and hold the Select button to start the search. The symbol is constantly displayed.

To then configure the DALI light source in the Homematic IP App, proceed as follows:

- Open the channel overview of the DALI Gateway.
- Tap on "Detected and active channels".
- Then tap on "Yes".
- The new DALI light source is then displayed in blue in the channel overview.

The same procedure can be used to replace a defective DALI light source within the Homematic IP App.

11.3.6 DALI groups

DALI groups are groups of individual DALI light sources that can be controlled together. These groups can be used like individual devices for links to other groups or automation systems.

To create a DALI group, proceed as follows:

- Press the "+" icon and enter the name of the DALI group.
- Then select the DALI light sources to be added to the group.

A maximum of 16 DALI groups can be created.

11.3.7 Resetting an individual DALI device

To reset an individual DALI device, proceed as follows:

- The DALI-specific functions can be activated by pressing and holding the Select button.
- The "🔍" icon flashes in the display.
- Change to the Reset menu by briefly pressing the Channel button "↻".
- Long press the Channel button to start the channel selection. The first channel number starts to flash.
- Choose the desired channel by briefly pressing the Channel button.
- Long press the Select button to implement the reset of the selected channel.

This process deletes the assigned address of an individual DALI device and it is no longer displayed in the channel overview of the gateway.

11.3.8 Resetting all DALI devices

To reset all DALI devices, proceed as follows:

- The DALI-specific functions can be activated by pressing and holding the Select button.
- The "🔍" icon flashes in the display.
- Change to the Reset menu by briefly pressing the Channel button "↻".
- Press and hold the Select button to perform the Reset.

This process deletes the assigned address of all the DALI devices and they are no longer displayed in the channel overview of the gateway.

11.3.9 Resetting the DALI gateway

To restore the factory settings of the DALI gateway, proceed as follows:

- Press and hold the System button for 4 seconds until the LED starts to flash orange fast
- Release the System button again
- Press and hold the System button again for 4 seconds until the LED lights up green
- Release the system button to conclude the procedure. The device will perform a restart

This process deletes only the configuration of the multi-channels available in the gateway, but not the DALI addresses of the respective light sources.

12 ACCESS

The intelligent Homematic IP devices of the “access” solution, such as the door lock drive, the key ring remote control - access and the keypad, now also enable you to conveniently customise access to your Smart Home.

The smart door lock drive enables convenient and secure unlocking, locking and opening of front doors via smartphone, remote control, button and time profile - from the comfort of your armchair, car or garden. The cumbersome manual locking and unlocking of the door is a thing of the past, because the door lock drive does this completely automatically. Another advantage: The door can also be securely locked and opened conveniently by voice command (with Amazon Alexa and Google Assistant) and by entering a numerical code via the keypad.

A whole range of intelligent additional functions ensure greater convenience and safety:

- The Homematic IP smartphone App enables you to keep an eye on the status of the front door at all times.
- Access authorisations make it possible to determine who is allowed to enter the building and at what times.
- Access codes can be assigned individually for the keypad and also activated and deactivated via access authorisation at specific times and days of the week.
- Locking and unlocking the front door by entering a numerical code on the keypad can also arm/disarm the security mode.
- It is possible to lock the door lock automatically for a defined period of time, e.g. overnight.
- Individually adjustable automatic relocking ("Auto Relock"): After the door has been opened, it is automatically locked again at definable times and with an optional delay.
- When using the key ring remote control, secure communication and reliable control of the front door is always ensured thanks to the direct link with the door lock drive - even if there is no connection to the Internet, the access point or the cloud.
- Controlling the front door is particularly secure with Homematic IP: By setting an individual PIN, the control of the front door is protected via the app. Alternatively, the app can be linked to biometric features (such as Face ID and Touch ID) to unlock the front door.
- Convenient and secure locking and opening of the front door by voice command.
- Clear tracking of actions in connection with the door lock drive in the event log, e.g. when the door was last locked or unlocked.
- In combination with a door and window contact, the system checks whether the door is open or closed when the lock is locked ("secured locking").

You can find further interesting information on the subject of "Access" ***here*** on our website.

12.1 Installation instructions

Which devices do I need for smart access control with Homematic IP?

For intelligent control of the front door, Homematic IP includes the smart Door Lock drive, the Wiegand Interface, the Keypad and the matching Key Ring Remote Control - access.
The key inserted in the lock is turned by the Door Lock Drive so that the door locking and unlocking mechanism moves in the same way as when locking with a key.
Access is granted via the Keypad mounted on the outer wall simply by entering a numerical code and confirming with the unlocking button. In the same way, when leaving the house, the security mode including locking of the front door can be activated by entering a code and subsequent confirmation via the "Lock" button.
The Key Ring Remote Control - access controls the door lock drive via three buttons and enables the front door to be locked, unlocked and opened at the touch of a button. An additional button can be used to switch the Coming-Home light on (short press) or off (long press).
As an alternative to the Keypad and the Key Ring Remote Control, the Door Lock Drive can be controlled via smartphone, wall-mount remote control or contact interface.

What tools do I need to fit the Keypad?

Thanks to battery operation and wireless communication, the Keypad is easy to install on the outside wall without the need to lay electrical cables. The mounting plate can be securely mounted using the screws and plugs supplied. This means that there are no electrical cables in the outdoor area that could be sabotaged. The Keypad is also protected by a tamper contact that triggers a push notification in the event of tampering or removal.

What tools do I need to fit the Door Lock Drive?

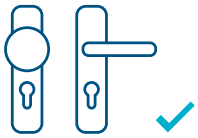
Installation is possible without screws or drilling, i.e. without any damage to the door, frame or key. Only an Allen key included in the scope of delivery is required for installation. The device is therefore also suitable for rented flats and can be dismantled at any time if required and used on another door. Detailed information in this respect is found *here* in the instruction manual of the device.

Which locking cylinders is the Door Lock Drive suitable for?

Thanks to battery operation, the Door Lock Drive can be installed very quickly and conveniently on standard profile cylinders with emergency and danger functions and is not visible from the outside. The locking cylinder must protrude 8 - 15 mm on the inside of the door.

Euro profile cylinder

Shield or rosette fitting



Knob or handle

Multipoint lock

How many access solution devices can I use in my installation?

It is possible to use several Door Lock Drives/Door Openers and Key Ring Remote Controls - access in one Homematic IP installation.
The following upper limits apply per access authorisation created:

Limits per access authorisation	Maximum number
Door Lock Drives/Door Openers in one access authorisation	3
Pushbutton, remote control or user channels for controlling a door lock drive	8 (buttons / button pairs)
Smartphones for controlling an access authorisation	42

Up to 8 access authorisations can be created per Door Lock Drive/Door Opener and keypad.

12.2 Pairing / start-up in the app

12.2.1 Programming a Door Opener

To be able to integrate the device into your system and control it using the Homematic IP App, you must first of all pair it with to the Homematic IP Access Point.

- Open the Homematic IP App on your smartphone.
- For example, connect the Homematic IP Keypad or the Homematic IP Door Lock Actuator to the Homematic IP App as usual. For further information, please refer to the section ***"5.3.6.1 Pairing devices"*** *or to the relevant operating manual of the device.*

When the Keypad is first used, a sabotage message may appear in the app if the Keypad has not yet been inserted into the wall bracket. The Keypad is released again by confirming in the app and pressing the "Unlock" button. For further information, please refer to the operating manual of the device.

The app automatically queries whether the device was already installed or not. If the device has not yet been installed, the installation wizard starts in the app with step-by-step instructions on how to install the device on the wall or on the cylinder lock.

Since the following functions are security-relevant, the Administrator PIN that you assigned when activating the user rights will be requested before you can take certain steps (pairing, deleting and editing access authorizations).

- Enter the Administrator PIN and confirm your entry.

- Allocate the device in the app to a room and give the device a name. Tap on "Continue".

12.2.1.1 Assign numerical codes for user channels

After you have successfully paired a keypad or a Wiegand interface, you can assign the corresponding numerical codes – you can define up to 8 numerical codes. These can be assigned to the solutions "Access control", "Light and shade" and "Security". When assigning the channels, you can choose between "Light and shade" for controlling light and shutter actuators, "Security" for activating or deactivating active presence or absence protection, and "Access control" for locking/unlocking the door or controlling the garage door.
A code must consist of no fewer than 4 digits and no more than 8 digits.

Eight user channels are available for the Wiegand interface, to which twenty Wiegand codes (e.g. numerical codes, transponders or fingerprint sensors) can be assigned.

If a channel is assigned to the "Access control" solution, the "Security" solution can be assigned to the same channel. This means that, when leaving the house, for example, the alarm mode is activated by entering a numerical code, and this also locks the front door.

Entering the numerical code and subsequently pressing the "Lock" or "Unlock" button is confirmed by the keypad with a green (OK) or red (incorrect code entry) flashing light. For more information on the flashing signals, please refer to the unit's operating instructions.

Numerical codes for up to 8 user channels can be created in the device overview of the keypad.

- Tap on the channel that you want to assign a numerical code to.
- Assign the channel to the desired solution (e.g. access) and tap on "next".
- Enter the channel name, e.g. "Family access" and tap "Continue" and then "Done".
- Tap on "Keypad code" and enter the desired numerical code. You can enter 4 to 8 digits.
- Confirm with "✓".
- Repeat the procedure for each additional channel.

12.2.1.2 Incorrect entries and permanent blocking

You have the option of setting up a lock after incorrect code entries for the keypad and the Wiegand interface. You can define the number of incorrect code entries after which the keypad or Wiegand interface device is to be temporarily or permanently blocked. For example, you can define that the device is temporarily blocked after three incorrect entries. The locking time is 15 seconds the first time and doubles automatically after repeated incorrect entries. In addition, you can define the number of incorrect entries that must be made before the device is permanently locked and can only be unlocked using the app and the Administrator PIN.
For each incorrect code entry, you will receive a push notification on your smartphone and a message in the app that the device has been locked.

To set up the temporary or permanent lock, proceed as follows:

- Navigate to the device overview via the "More" tab and select the keypad.
- Use the menu item "Incorrect entries until temporary blocking" or "Incorrect entries until permanent blocking" to set the maximum number of incorrect entries until temporary/permanent blocking.

All events that are triggered when operating the keypad or Wiegand interface device are registered and displayed in the event log.

The integrated proximity sensor illuminates the keypad when someone approaches, so that you can see the keypad even in poor lighting conditions.

No information on the numerical codes is output when an installation report is created.

12.2.2 Closing direction of the Door Lock Drive

After setting up the device and room allocation, you must define the exact position of the door handle and the closing direction when setting up the Door Lock Drive.

- Select the closing direction of the door. Take care that the position of door lock and door lock drive determines the closing direction when you look onto the door from the inside. Tap on "Continue".
- In the next window, select the type of door handle on the outside of the door. The choice of door handle also has its effect on the function of the door lock drive. Accordingly, please note diligently the explanations in the app.
- Make your choice and tap on "Continue".
- In the following window, select the neutral position of your key. This is the position in which the key can be inserted or, respectively, removed.
- In the following step, you will check how many full turns are required to completely lock the door from an originally unlocked position. Tap on "Continue".
- You can then create locking and unlocking times or skip this step by tapping on "Continue" *(see Section "12.2.3 Locking and unlocking times of the Door Lock Drive" on page 114)*.
- In the final step, assign the device to an existing access authorisation or create a new access authorisation *(see Section "12.3 Access authorisations" on page 114)* or end the set-up process with "Done".

The Door Lock Drive can only be controlled via the Homematic IP App once the corresponding smartphone has been assigned access authorisation.

12.2.3 Locking and unlocking times of the Door Lock Drive

By defining locking/unlocking times, you have the option of specifying times from which the door is automatically locked or unlocked (e.g. locking in the evening or unlocking in the morning):

- Tap on the "+" icon to define a new locking time.
- Select one or more days of the week and the locking time.
- Tap on "🔒" or "🔓" to specify whether the front door should be locked or unlocked at the selected time.
- Confirm your settings with "✓". You can define, at any time, additional points in time and change or delete closing times.

12.3 Access authorisations

By assigning access authorisations, you can link the Door Lock Drive/Door Opener or the smartphones registered in the Homematic IP system with Homematic IP devices, such as the Keypad, a Key Ring Remote Control or a Wall-Mount Remote Control. That means, the controlling Door Lock Drive – i.e. opening, unlocking and locking of the door – is only possible with devices to which an access authorisation had been assigned.

12.3.1 Preparation of access authorisations

To create a new access authorization, proceed as follows:

- In the pairing menu, tap on "Preparation of access authorisations" to prepare an access authorisation.

If you already prepared an access authorisation, use the menu item "Add to existing access authorisation".

You may subsequently create or edit additional access authorisations at any time via the main menu and the menu item "Access authorisations".

- Provide a meaningful name for the access authorisation, e.g. "access authorisation, family" or "iPhone Max". Tap on "OK".
- Select the devices to be controlled under "Door lock drives/door openers".
- Under "Trigger devices", select which devices should control the Door Lock Drive/Door Opener. Save your selection with "✓".
- Under "Assign smartphone/additional service", select which smartphones or additional services (e.g. Alexa) can control the Door Lock Drive/Door Opener. Save your selection with "✓".
- Under "Time profile", select the time during which the access authorisation created is active *(see Section "12.4 Time schedules" on page 115)*.
- Assign a PIN under "Access authorisation PIN" to protect control of the Door Lock Drive/Door Opener. If you do not assign an access authorisation PIN, unauthorised persons are also able to control the Door Lock Drive via the corresponding smartphone. The PIN moreover prevents the accidental operation via the app. Choose a PIN with 4 – 10 digits and keep the PIN in a safe place.

12.4 Time schedules

By default, any newly defined device with access authorisation has temporarily unlimited access to the Door Lock Drive/Door Opener. Accordingly, anybody with such a device is able to access your home around the clock. However, you can limit the access possibility in time through the definition of a time schedule. As is the case e.g. with time schedules in light and shading control, the time schedules can be deleted, changed or copied to other weekdays at any time via the main menu under access authorisations – time schedule.

As an example, brief instructions are here presented for access, limited in time, in the morning and in the evening:

- Tap on the menu item "time schedule" and select Monday in this case.
- After tapping on the "+" icon on the lower corner of the screen, select the starting point and the end point of the first block of time (e.g. mornings from 06:30 to 08:30 hrs) and tap on "Save".
- After tapping again on the "+" icon, select the starting point and the end point of the second block of time (e.g. evenings from 18:30 to 20:30 hrs) and tap again on "Save".
- Save your selection with "✓".
- Go back to the time schedule. By swiping the Monday schedule to the right, you have the option to copy the before defined time schedule to one, several or all weekdays or to individually determine times for every weekday.
- After your selection, tap on "OK".
- By tapping one of the "Active on all days" or "Inactive on all days" buttons, you can activate or deactivate access to the Door Lock Drive/Door Opener for all days. In that case, the adjusted time schedule will be deleted.
- Confirm your settings with "✓".

12.4.1 Pairing and connecting the key chain remote control

The key chain remote control – access, optimised for the Homematic IP door lock drive is added as any other Homematic IP device. In order to use the key ring remote control to control the door lock drive or another door opener, an access authorisation must be created for the remote control. To do this, proceed as follows:

- In the pairing menu, tap on "Preparation of access authorisation".

If you already prepared an access authorisation, use the menu item "Add to existing access authorisation".

You may subsequently create or edit additional access authorisations at any time via the main menu and the menu item "Access authorisations".

- Award a meaningful name for the new access authorisation, for example "key chain remote control, Max".
- Select the devices to be controlled under "Door lock drives/door openers".
- Under "Trigger devices", select the desired key ring remote control that is to control the door lock drive/door opener. Save your selection with "✓".

Alternatively, the door lock drive/door opener can also be controlled via a smartphone, wall button, contact interface or input module. In order to be able to use the devices in the access authorisation, they must first be assigned to the access solution.

- After tapping on "Continue", the access authorisation will be prepared.

In the following window, you can prepare, if necessary, a time schedule for remote control access to the door lock drive *(see Section "12.4 Time schedules" on page 115)*.

- The key chain remote control was successfully paired and the access authorisation for the device was successfully deposited.
- Tap on "Done" to conclude the setting.

12.4.2 Configuring access authorisation

In the main menu under "Access authorisations", you can see for which smartphones or a keypad and other devices access authorisations have already been created. The Administrator PIN is required for access to this menu item. By tapping on a corresponding smartphone or device you get to the settings options for the pertinent access authorisation. The following settings can there be adjusted:

Door lock actuators/door openers:

Select the door lock drives/door openers to be controlled. Tap on one or more of the door openers listed. Save your selection with "✓".

Smartphone/device assignment:

You can select and deselect individual devices and voice assistants that are to control the door opener here. In order to enable the allocation, devices such as key chain remote controls must be paired as usual. For the selection of smartphones, those smartphones are available which are connected with your Homematic IP System. Selected additional smartphones are designated with a key symbol in the menu "access authorisations" under the devices with access authorisation.

PIN:

Assign a new access authorisation PIN for the users of this access authorisation at any time to protect control of the door opener. The PIN must comprise a total of 4 to 10 digits. If you want to eliminate this combination of numbers, leave the fields unfilled when the PIN is to be entered and confirm with "✓". You will find further information regarding the PIN in the section *"12.7 PIN protection and biometrics"*. You can see whether a PIN has been assigned directly in the overview of access authorisations via the "PIN" icon.

Time profile:

If required, create a time limit for access for users with this access authorisation. You will find details on setting up the time schedule in the section *"12.4 Time schedules"*.

12.5 Device settings, door lock drive

Via the overview of devices and after selection of the door lock drive, you will get to the device settings. Numerous options are here available to you. Enter the administrator PIN to display the device settings.

Allocation:

Here, you can select or subsequently change a room as well as a device name for your door lock drive.

Keypad lock:

Here, the door lock drive can no longer be operated directly on the device via the two keys. Manual operation via the hand wheel remains possible.

Locking/unlocking times:

Here, you can create locking times for door lock drives *(see Section "12.2.3 Locking and unlocking times of the Door Lock Drive" on page 114)*, after which the door should be automatically unlocked or locked, for example every evening at 10.00 pm.

Auto Relock:

Here, you can set a time period for automatic locking of the door lock drive. With activated Auto relock, a selected door will be automatically relocked again after having been opened – following a delay period between one minute and up to 30 minutes which you had specified.
The standard setting is

- a delay period of five minutes and
- all weekdays are deactivated.

Starting from the standard setting, you can

- change the delay period of 5 minutes to a value of between 1 minute and 30 minutes, and you can also
- specify individually on which weekdays and at which times of the day the "auto relock" function is to be active.

The determination of active times is effected analogously with the preparation of time schedules *(see Section "12.4 Time schedules" on page 115)*.
Scroll down in the menu "Auto relock" and you can – by tapping on one of the buttons – activate or deactivate the function for all weekdays, or you can restore the standard settings. In all cases, the time schedule set beforehand will be deleted.

Secure locking

If you are not personally on location to check whether your door is standing open when a door lock drive is used to lock it, you can use this function in conjunction with a door and window contact or an input module configured as such. The contact is simply installed on the same door as the door lock drive and thus checks upon locking whether the door is open or closed. In case of an opened door, you will receive a push message on your smartphone as well as an alarm message in the Homematic IP app.

The contact mounted on the door must be allocated, in the app, to the room in which the door lock drive is also located and must be allocated the function via the before explained menu entry of the door lock drive.

For the door and window contact, you must not activate any message delay since the message delay impacts the secured locking.

The secured locking is compatible with the following types of devices: HmIP-SWDO-2, HmIP-SWDO-PL-2, HmIP-SWDO-I, HmIP-SWDM-2, HmIP-FCI1, HmIP-FCI6, HmIPW-DRI16/32 and HmIPW-FIO6.

Holding time when opening

Depending on how far the latch bolt of your door lock needs to be retracted to open the door, you can extend the hold time to 3 s or 5 s when opening as required. Extending the hold time has an effect on the battery life.

End stop angle range

Depending on how far the key in the lock can still be turned in the opening or closing direction after a complete locking or unlocking process (e.g. when locking or unlocking manually from the outside with a key), you can individually adjust this end stop angle range for status detection. You can select four different positions for both end stops (locked and unlocked).

Acoustic feedback

After successfully locking or unlocking the door lock, a short acoustic signal sounds. You can activate or deactivate this here. The acoustic signal when the battery voltage of the door lock drive is low remains active regardless of this.

*You already specified the other parameters – **closing direction**, **door handle**, **neutral position** and **revolutions** – in the course of the pairing process of the door lock drive. Here, you have the opportunity to change these parameters if necessary.*

12.6 Home screen setup

For rapid door control via smartphone, the home screen of the app can be designed so that access to the door lock drive is as convenient as possible. We recommend defining the room in which the door lock drive is installed as the default room. This has the advantage that the default room is displayed first (in the tile view) or in the top position (in the list view) when the app is started.

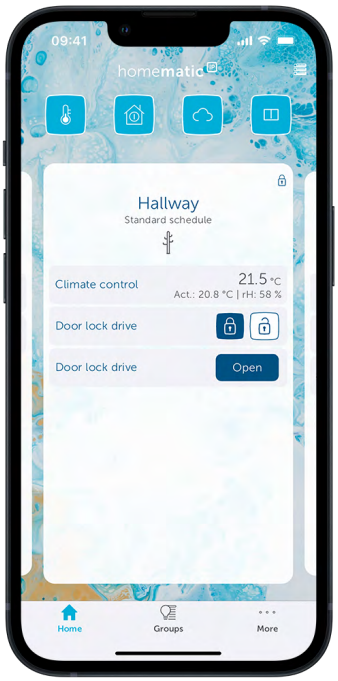


Figure 30: Screenshots of access control via the home screen

If you use a door handle and not a door knob from the outside, the "Open" option is not available, because the front door can then be opened by pressing down the door handle when unlocked.

For example, if you have set up the door lock drive in the "Hallway" room, proceed as follows:

- Tap on "Settings" in the main menu and then on "Home screen".
- Select "Display rooms", tap "Continue" and move the "Hallway" room to the top.
- After tapping on "OK", the room with the door lock drive appears first (in the tile view) or in the top position (in the list view).

In terms of door control, the tile view has the advantage that the home favourites can be defined and edited here. This means that not only is the current status of the door lock drive displayed on the home screen at a glance, but the door can also be locked, unlocked and opened directly on the home screen by tapping on the corresponding favourite tiles.

12.7 PIN protection and biometrics

To access the "Access authorisations" area, it is necessary to enter the respective administrator PIN that was assigned when activating the user rights in the smartphone app. This prevents unauthorised persons from changing access authorisations. It is also possible to protect the operation of the door lock drive with an access authorisation PIN. This is to ensure that unauthorized opening, unlocking or locking is only possible if you know the appropriate PIN. This makes it impossible for unauthorized persons to control the front door.

*The access authorisation PIN should not be the same as your own administrator PIN. You will find details on the Administrator PIN in section **"6.1.4 Managing user rights"**. There is one administrator PIN per administrator, but there can be several access authorisation PINs.*

If an access authorization PIN was deposited, you will be asked to enter it in the home screen when opening the door lock drive via smartphone.
Upon the initial request of the access authorization PIN, a special window is opened by means of which you can enter and confirm the PIN. As a second option you can "Connect PIN with Biometrics". With smartphones supporting this function, you can here tie in the Touch ID or Face ID here and quite comfortably control the door via Touch or Face ID.
If you have connected the access authorization PIN with biometric functions of a smartphone, the menu item "Settings" in the main menu of the Homematic IP smartphone app will be expanded by the menu item "Biometrics". Here you can delete again the biometric link if you prefer again the use of an access authorization PIN.

12.8 Controlling garage door drives

In conjunction with the module for Hörmann drives, the smart control of garage door openers can be easily integrated into the Homematic IP system. The garage or entrance door can be easily opened, closed, stopped and moved to a ventilation position when using the app, the garage door controller or a remote control. Controlling with the app allows for flexibility, via home favourites, in the room view under "Access" or via garage door groups.

Garage doors can be opened and closed by voice command. The light on the garage door opener can also be switched on and off via voice command.

You have two options regarding the smart control of garage doors in the Homematic IP system:

12.8.1 Garage door control via modules for Hörmann operators

Many different models of Hörmann garage door drives can be controlled with the Homematic IP App and with a Homematic IP Remote Control in connection with a Homematic IP Hörmann Module. This module can be integrated into the door drives without the need for tools due to the use of plug connectors and will be supplied with power by the drive. You will find further information in the operating manual of the module.

The garage door status (moving, open, closed, partial opening, e.g. for ventilation) can be seen any time in the Homematic IP app. Additionally, the light integrated in the garage door drive can be comfortably switched on or off via the app as well.

13 ENERGY MANAGEMENT

With the energy management solution, yet another area of application has been created in the Homematic IP world to protect the environment and help Homematic IP users save money – both sustainably and in the long term. Just a few Homematic IP products are all you need to conveniently use the energy management solution in your home.

Our energy management goals are to:

- **make energy consumption transparent**,
- **use energy feeds in line with demand**,
- and **cut energy costs**!

Never lose sight of your electricity and gas consumption with Homematic IP! Our smart home system offers a wide range of options that aren't just convenient, but trailblazing too. Creating energy consumption-dependent automations is extremely easy in the Homematic IP app. By doing this, users can flexibly adapt to a wide range of consumption and feed-in scenarios. Depending on the device, the Homematic IP interface for energy sensors (HmIP-ESI) records the total electricity and gas consumption, as well as any existing electricity feed-in values, meaning energy management in your home is made transparent, efficient and smart.
The measurement data collected can be easily transformed into easy-to-understand graphs, meaning you can check how your own PV system is performing or how much electricity the electric radiant heater consumed during a winter barbecue from the comfort of your couch in the evening. Nasty surprises on your energy bill are now a thing of the past. But that's not all. Thanks to Homematic IP's wide range of smart switching actuators, you can also precisely control electricity usage too. The application examples are as varied as they are impressive. For example, owners of electric bikes can charge their bikes specifically when the balcony power plant or PV system is providing the required energy free of charge. Thanks to our current product portfolio, you can already implement a large number of application examples in your smart home today, but the future of energy management also has some interesting and exciting products in store for Homematic IP users!

13.1 Installation instructions

Which devices do I need for smart energy management with Homematic IP?

Energy management can be viewed and designed very individually within the Homematic IP world. The main aim here is to make the best use of available energy when it is either cheap or even surplus. The following two aspects are particularly important.

- What is my **energy consumption** behaviour like?
- How can I make my **energy usage efficient** and **cost-effective**?

Homematic IP already provides a wide range of products for precisely this purpose. But what is the first step towards making your smart home energy-efficient? First of all, you need to know what your personal and highly individual energy consumption is. Why? If you know how much energy you are consuming, you can use energy efficiently in a wide variety of ways. That gives you maximum flexibility when it comes to setting up automations or adapting usage behaviours.
But not all energy consumption is the same. Depending on what you would like to achieve and optimise with the Homematic IP smart home system, you can make a distinction between total and individual consumption. If you know your home's total energy consumption, you can draw conclusions about the usage behaviour of all the occupants. For example, you could then discuss as a family how you might like to change your behaviour to better protect the environment and save on energy costs in the future.
If you would like to determine the individual consumption of one or several devices because they may consume a great deal of energy, you can obtain a direct overview of energy consumption and costs in the smart Homematic IP app. Below are just a few of the great variety of energy management options that you can implement to make your Homematic IP smart home more energy-efficient.

13.2 Simple energy management solutions

"Simple energy management solutions" are particularly suitable for a single intended use. All you need to teach the products and operate them using the Homematic IP app is the Access Point (HmIP-HAP).

Read electricity and gas meters to get an idea of your home's total energy consumption

The interface for energy sensors (*HmIP-ESI*) makes reading household electricity and gas meters extremely easy. Due to the different meter types and the available customer interfaces, we have put together some guidelines to help you choose the right HmIP ESI set. The following online document describes the meter types' distinguishing criteria, and can currently be found in the Downloads section of the Homematic IP website at any time: "*Guidelines for Homematic IP energy interfaces*".

Measuring energy consumption to get an idea of devices' individual consumption

The Homematic IP switching actuators and meters make precisely recording measured electricity values particularly convenient. For example, it is possible to determine the electricity feed-in values of a balcony power plant, meaning these values can be used for automations. The following products can be used:

- *Switching actuator and meter – flush-mounted (HmIP-FSM)*
- *Switching actuator and meter 16 A – flush-mounted (HmIP-FSM16)*
- *Switching actuator and meter for brand switches – international (HmIP-BSM-)*
- *Pluggable switch and meter (in all versions) (e.g. HmIP-PSM-2)*

13.3 Combined energy management solutions

All products that fall under the "simple energy management solutions" category can be specifically connected to one another using smart automations in the Homematic IP app, meaning there are no limits to creativity.

Supply certain electrical consumers when energy feed-in is available

An electricity meter that measures the electricity feed-in from your own PV system and provides the appropriate customer interface is required. This allows the electricity meter to be read with a corresponding interface for energy sensors (HmIP-ESI), meaning the Homematic IP smart home system knows how much energy is currently being fed in and can control certain switching actuators or switching actuators and meters.
For example, you can switch on a pluggable switch in the garage if the power fed in exceeds a value of 100 W. If an electric bike charger is connected to this pluggable switch, it is always guaranteed that the electric bike will only charge when the PV system is generating sufficient surplus electricity.
Similar automations are also available for other devices. For example, you can:

- switch on a dehumidifier,
- operate a heating element in the hot water tank, or
- switch on an electric auxiliary heater in the bathroom.

Switching off negligible energy consumers with smart automations

Are you heading off on a well-deserved holiday, and would you like your Homematic IP smart home to be as energy-efficient as possible? Not a problem. When you leave your home, you can use smart automations to switch off negligible electricity consumers. Within the automation system, the likes of a presence sensor or the presence or absence protection can be used as a trigger to control certain switching actuators or switching actuators and meters. But what applications are there for this? You can switch off the following consumers, for example:

- the pumps for the water feature and the stream of your garden pond,
- outdoor or garden lighting, or
- the heating element of a hot water tank.

This saves on electricity costs, and you can head off on holiday with complete peace of mind.

13.4 Pairing / start-up in the app

13.4.1 Pairing the interface for energy sensors (HmIP-ESI)

To be able to integrate the device into your system and control it using the Homematic IP app, you must first of all teach it to the Homematic IP Access Point.

- Open the Homematic IP app on your smartphone.
- Teach the Homematic IP interface for energy sensors (HmIP-ESI) to the Homematic IP app as usual. For further information, please refer to section *"5.3.6.1 Pairing devices"* or to the relevant operating manual of the device.

13.4.2 Configuring the IEC energy sensor

Once the interface for energy sensors (HmIP-ESI) has been successfully taught in conjunction with the IEC energy sensor, you will find the "Interface for energy meter" using the "...More" menu and "Device overview". The "Assignment" and the "Sensor configuration" can be changed there afterwards.

- The device is reassigned to a room under "Assignment".
- The energy sensor can be automatically recognised and configured under "Sensor configuration" by pressing the system button.

If an exclamation mark appears in the device menu, this may be due to the energy sensor being plugged into the transmission unit incorrectly or not being plugged into the transmission unit at all. Check the connection of the energy sensor to the transmission unit and start the automatic "Sensor configuration".

Most electricity meters usually only provide a limited data set. A PIN must be entered on the electricity meter to be able to read out the full data set with the IEC energy sensor. You must find out this PIN from your metering point operator in advance. How you input the PIN depends on the meter type, and this can be done using a mechanical or optical button. Please read the technical description for your electricity meter.

The IEC energy sensor has no further setting options, as it reads the electricity meter's available count registers fully automatically.

13.4.3 Configuring the LED energy sensor

Once the interface for energy sensors (HmIP-ESI) has been successfully taught in conjunction with the LED energy sensor, you will find the "Interface for energy meter" using the "...More" menu and "Device overview". The "Assignment", "Sensor configuration", "Latest meter reading" and "Pulses per kWh" can be changed there afterwards.

- The device is reassigned to a room under "Assignment".
- The energy sensor can be automatically recognised and configured under "Sensor configuration" by pressing the system button.
- The electricity meter's latest meter reading is entered under "Latest meter reading". It is shown on the electricity meter display at the time of installation. This ensures that the value displayed in the Homematic IP app is the same as the value on the meter.
- The meter-dependent pulse constant is entered under "Pulses per kWh". This ensures that the LED pulses from the electricity meter are correctly analysed.

If an exclamation mark appears in the device menu, this may be due to the energy sensor being plugged into the transmission unit incorrectly or not being plugged into the transmission unit at all. Check the connection of the energy sensor to the transmission unit and start the automatic "Sensor configuration".

After a battery change, the "Latest meter reading" in the Homematic IP app must be compared with the actual status on the electricity meter display and added if necessary.

13.4.4 Configuring the GAS energy sensor

Once the interface for energy sensors (HmIP-ESI) has been successfully paired conjunction with the GAS energy sensor, you will find the "Interface for energy meter" using the "...More" menu and "Device overview". The "Assignment", "Sensor configuration", "Latest meter reading" and "Amount of gas per pulse" can be changed there afterwards.

- The device is reassigned to a room under "Assignment".
- The energy sensor can be automatically recognised and configured under "Sensor configuration" by pressing the system button.
- The gas meter's latest meter reading is entered under "Latest meter reading". It is shown on the gas meter display at the time of installation. This ensures that the value displayed in the Homematic IP app is the same as the value on the meter.
- The meter-dependent pulse constant is entered under "Amount of gas per pulse". This ensures that the pulses from the gas meter are correctly analysed.

If an exclamation mark appears in the device menu, this may be due to the energy sensor being plugged into the transmission unit incorrectly or not being plugged into the transmission unit at all. Check the connection of the energy sensor to the transmission unit and start the automatic "Sensor configuration".

After a battery change, the "Latest meter reading" in the Homematic IP app must be compared with the actual status on the gas meter display and added if necessary.

13.5 Visualising measurement data from the energy sensors

Visualising the measured data from the interfaces for energy sensors is extremely easy. For more information about this, refer to the section *(see Section "14.2 Measured data" on page 127) below.*

13.5.1 Explanation of the attributes of the IEC energy sensor

If you navigate to "Measurement data" in the Homematic IP app using "...More", you can tap on "Configuration" in the menu and open the "Energy meter" and "Power" sections. You will find the selectable attributes that your electricity meter offers for recording measurement data below.
The IEC energy sensor potentially offers four different "attributes" when recording measuring points.

The attributes can be found in the "Energy meter" section:

- "Incoming supply meter reading – HT",
- "Incoming supply meter reading – LT" and
- "Grid feed meter reading".

"HT" stands for "High tariff" and "LT" for "Low tariff".
These three attributes represent total values that an electronic electricity meter with an IEC interface can potentially record and output. The distinction between "HT" and "LT" applies to households with time-dependent electricity tariffs.
The IEC energy sensor is merely an attribute in the "Power" section. This attribute corresponds to the current power. Depending on the direction the electricity is flowing in, the meter outputs a positive or a negative value. A positive value represents consumption from the electricity grid, and a negative value represents feed-in to the electricity grid.

13.5.2 Explanation of the attributes of the LED energy sensor

If you navigate to "Measurement data" in the Homematic IP app using "...More", you can tap on "Configuration" in the menu and open the "Energy meter" and "Power" sections. You will find the selectable attributes that your electricity meter offers for recording measurement data below.
Some home installations have what are known as "submeters", which record either an electricity supply or an electricity feed-in. If these submeters provide an LED interface, the LED energy sensor can either record the electricity consumption or the electricity feed-in – depending on the application in the existing home installation.

Here are two examples:

- The electricity supply from a wallbox is measured separately.
- A PV system's electricity feed-in is measured separately.

The LED energy sensor offers a total of two "attributes" when recording measuring points.
The LED energy sensor is a single attribute in the "Energy meter" section. This attribute corresponds to the electricity consumption or the electricity feed-in within a specific unit of time and is displayed depending on the selected display level (day, week, month or year).
The LED energy sensor is a single attribute in the "Power" section. This attribute corresponds to the current power. The electricity supply or the electricity feed-in from the pulse LED is displayed here depending on the application.

13.5.3 Explanation of the attributes of the GAS energy sensor

If you navigate to "Measurement data" in the Homematic IP app using "...More", you can tap on "Configuration" in the menu and open the "Amount of gas" and "Gas consumption" sections. You will find the selectable attributes that your gas meter offers for recording measurement data below.
The GAS energy sensor offers a total of two "attributes" when recording measuring points.
The GAS energy sensor is a single attribute in the "Amount of gas" section. This attribute corresponds to the amount of gas consumed within a specific unit of time and is displayed depending on the selected display level (day, week, month or year).
The GAS energy sensor is a single attribute in the "Gas consumption" section. This attribute corresponds to the current gas consumption.

14 AUTOMATIONS

14.1 Automations

For all functionalities that can neither be set up via groups nor via time schedules, the automation function can be used. You can use the "**Automation**" function of the Homematic IP app to automate numerous tasks within your Homematic IP system. Additionally, operations can be connected across all solution variants (light control, heating control, security, etc.). In order that you are kept up to date of all the statuses in your Smart Home at all times, you can also use an automation to have push notifications sent to your smartphone for freely definable actions.

For the automation of tasks for automatic execution, it is necessary to create rules. These rules always include at least one trigger and one action that starts if the condition for the trigger(s) is/are fulfilled, e.g. if a room temperature falls below a certain threshold value. Furthermore, the function offers the possibility to define additional conditions that must be fulfilled to introduce the action desired.

The Home Control Unit enables you to set an execution delay, so that an automated action is only executed after a certain time. For example, a push notification can be sent when a window has been open for 10 minutes.

14.1.1 Activating and deactivating automations

In the default settings, all automations defined by you are activated and will be executed in case of an active Internet connection. However, you can deactivate and deactivate the automations at any time if required.

- To activate or deactivate a created automation, open the automation. You can use the "Active" slider to activate and deactivate the execution of the automation.

14.1.2 Application example: Sending a push notification when a window is open

To make sure you don't miss anything in your Homematic IP system, you can use an automation to send push notifications for desired actions or statuses. For example, you can be informed immediately if a window is still open at a certain time, a door has been unlocked or the room temperature is below a certain threshold.
In this example, a push notification is to be sent if a certain window (e.g. on the ground floor) is still open at 10 p.m. in the evening. This means that you are informed each evening if a window is still open before you go to bed.

Please note that the maximum number of push notifications limited to 10 notifications per day.

- Tap on the main menu icon in the homescreen and there on "Automation".
- Tap the + icon at the lower edge of the screen and enter a name for your automation into the empty field of the pop-up window, e.g. "Window open".
- Tap "no trigger selected".
- Select "Category" and tap on "Time".
- Select "Time" under "Reference".
- Under "Value", select "equal", the desired weekdays and, for example, "10 pm".
- Save your setting with "✓".

For example, you can specify a window status (open) as an additional condition.

- Under "Additional condition", tap on "No additional condition selected".
- Select the "Window status" category.
- Under "Reference", tap on .
- Under "Value", select the "Comparison selection" "between" and enter the desired time, e.g. from 10 pm to 11 pm.
- Save your setting with "✓".

Now select the action of sending a push notification:

- First tap on "No action selected" under "Action".
- Select "Push notification" as the "Category".
- Under "Reference", tap on "System function".
- Select "Automation" as the "Value".
- Save your setting with "✓".

14.2 Measured data

Homematic IP allows you to not only easily and securely control and operate your smart home, but also to always keep an eye on all the activities in your home, to analyse them and save them for later reference. The "Measurement data" function in the main menu of the app offers a wide range of options for displaying, recording and analysing individual measurement data attributes. A prerequisite for this is the use of Homematic IP devices that are available for the measurement data function. Individual attributes can then be used in the measurement data function. These attributes include, for example, the evaluation of movements, energy meters or the indoor and outdoor temperature. What was the warmest day last year and what was the energy consumption of my washing machine or TV? This can be easily analysed using the Homematic IP measurement data function. No matter when and where.

14.2.1 Configuration

In the main overview of the measurement data, press the three dots at the top right of the screen and select "Configuration". Here you can select the devices, filtered by attribute, for which you want to record the measuring points. To do this, expand an attribute, e.g. "Actual temperature", and then select the desired device. If you deselect a device for which data has already been recorded, you can select whether the associated measurement data should also be deleted. In this case, the corresponding device is displayed with a "stop" icon when you select the attribute for a new diagram, indicating that no new measurement data will be recorded.

A maximum of 20 measuring points can be selected for visualisation.

14.2.2 Visualise measurement data – Create diagram

Via the "Measurement data" menu item in the main menu of the app, you have the option of visualising the data recorded by your Homematic IP devices as diagrams. For example, you can display the temperature curve in a room in which a Homematic IP temperature sensor is installed.

To create a new diagram, proceed as follows:

- Press "Create diagram".
- On the next page, open the desired attribute, e.g. "Actual temperature".
- Then select the device.
- Save your selection with „✓".

Up to four identical devices can be displayed in one diagram, for example to visualise a comparison of the temperatures in different rooms.

If you create a new diagram for a device that is already in use, it will be shown later in the diagram display as a saved diagram.

14.2.3 Diagram display

In the next step, the diagram is created and can be further edited. The "Back" arrow takes you back to the selection of the attributes. The name of the diagram is displayed in the title. In the case of a new diagram, it is only displayed after a name has been assigned. You can save the diagram as a favourite via "♡". This allows you to access or edit the diagram at a later date. You can make further settings for the display of the diagram via "⚙".

In the settings, you have the option of customising how the diagram is displayed. "Average" is selected by default. The average of the combined measured values is displayed here. Alternatively, the smallest or largest of the combined values can be displayed. This is useful, for example, to view minimum or maximum values of outdoor temperatures over the course of a year. Save your selection with "✓" or discard your selection with "<" to return to the settings. Press "<" to close the settings and return to the diagram display.

In the diagram display, you will find various elements for visualising the data. The respective unit is plotted on the X-axis (e.g. temperature for thermostats or opening status for window and door contacts). The Y-axis represents the time curve, which can be changed using the tabs at the top of the screen. To do this, select Year, Month, Week or Day to display the appropriate time scale. You can use the magnifying glass to search for the data of a specific tag.

The attribute of the diagram is displayed below this, e.g. actual temperature or window status. Below this you will see the time period for the displayed data. This varies depending on the selected display view.
It is possible to view the data in detail in the actual diagram. To do this, tap on the diagram to activate the detail view. You can then swipe to select a specific point in time that you would like to view. Then close the detail view with the "X" symbol.
The device shown in the diagram is displayed in colour below the diagram. If you have selected several devices for a diagram, each device is distinguished by a different colour.

In addition to displaying the diagram in portrait format, it can also be displayed in landscape format in order to obtain a more detailed curve.

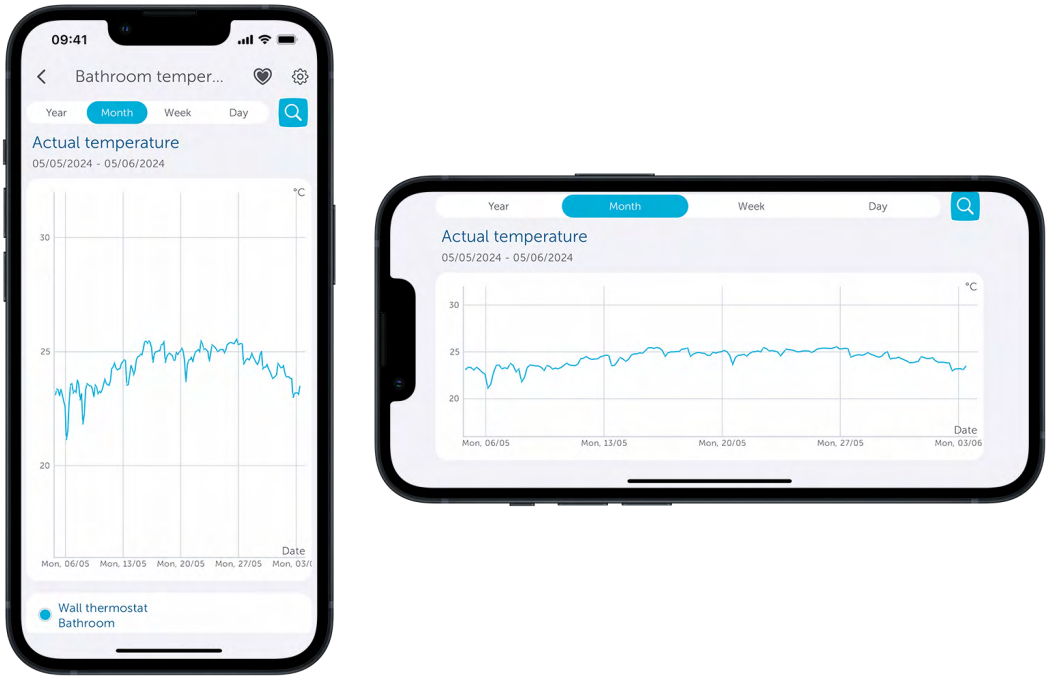


Figure 31: Diagram display in portrait and landscape format

Finally, save the diagram via "♡" and enter a name of your choice. Press "OK" to save the diagram; the name you selected is displayed as the diagram title. The saved diagram can now be found in the main overview of the measurement data.

14.2.4 Edit diagram

In the main overview, you have the option of renaming or deleting diagrams. To create a new name for a diagram, proceed as follows:

- Swipe left.
- Tap on "✎".
- Enter a new name.
- Tap on "OK".

To delete a diagram, proceed as follows:

- Swipe left.
- Tap on "🗑".

14.2.5 Data manager

The data manager can be used to display the available measurement data and to clear or delete data that is no longer required. In the main overview of the measurement data, press the three dots at the top right of the screen and select "Data manager".
Here you will find the number of measuring points saved to date, filtered by attribute.

"🗄" These are the saved measuring points that are saved locally via the app.
"☁" These are the saved measuring points that are backed up on the cloud server.

Swipe to the left on the desired device to clear or delete the measuring points for this device.

"🧹" This deletes the measuring points that are saved locally.
"🗑" This deletes all the measuring points that are saved locally and on the cloud server.

14.2.6 Export

In the main overview of the measurement data, tap on "⋮" and select "Export". This creates the option of exporting the measuring points collected on your devices in .csv format so that you can use them in your own analyses, e.g. with Excel. As the data is not automatically saved locally and is initially only available on the cloud server, it is necessary to synchronise the data.
To do this, tap on "🔄" to first save all the measuring points locally. The measuring points can then be exported. The data is summarised in a zip archive and can then be stored directly on the smartphone via "⎙" or sent via other services.

Exporting the data is recommended, as saving the measuring points locally takes up memory space on your smartphone.

15 VOICE CONTROL AND ADDITIONAL SERVICES

15.1 Comfortable voice control for your smart home

The operation of devices or asps via voice control is a growing trend. According to a current Homematic study, more than half of all smartphone users already use voice commands for controlling different functions like calling of contacts, route planning or note taking, e.g. via Google Assistant or Sri.[5]

Especially in the smart home field, this relatively young technology becomes more and more important with the increased integration of voice control technology. In the middle of 2019, 44 percent of all citizens in Germany said they would use digital voice assistants for controlling their Smart Home.[6] With loud speakers supporting voice control like Amazon Echo or Google Home and the increasing number of connected devices in households, comfortable control using voice commands finds its way into the own four walls.

The connection of Amazon Alexa or Google accounts with your Homematic IP smart home system provides the possibility to control a large number of Homematic IP devices and functions via voice commands in connection with a compatible loudspeaker with integrated voice assistant.

In addition, you can use smartphone apps such as Google Assistant to control your Homematic IP smart home system with voice commands – even without using the Google Home speaker.

The functionalities supported by Amazon Alexa so far include heating control and the activation of alarm functions as well as light control (switching on/off and dimming) and shutter control (moving shutters up and down). Also activation and deactivation of the eco mode and controlling of switching groups is supported. Due to security reasons, alarm functions can be activated but not deactivated via voice commands. The system is already preconfigured such that voice command devices do not even execute any voice commands concerning further Homematic IP functions during activated absence mode and activated presence mode. Via the Homematic app you can configure your system such that voice commands can still be executed for Homematic IP functions also during active presence mode or active absence mode.

Also the Google Assistant app offers various functionalities. Voice control for the German language is continuously improved by Google and may not be available with its complete range of functions at the beginning.
In connection with the Homematic IP app, Google allows for the switching on and off of light control switching and dimming actuators, the dimming and switching of light groups, heating control including selection of the desired room temperature, as well as querying of current settings and the current room temperature, or activating and deactivating the eco mode. Finally, also the absence and presence mode can be activated. Also in this case, deactivation is not possible in the standard settings for security reasons.

Further information on voice control of Homematic IP products and an overview of current voice commands can be found ***here***.

Requirements for using the voice control
Amazon Alexa:

- Homematic IP system with Homematic IP access point and devices that support language control
- Compatible smartphone (Android or iOS) with the current version of the Homematic IP app
- Amazon user account
- A loudspeaker supporting the Amazon voice service (e.g. Amazon Echo Dot, Amazon Echo, Amazon Echo Plus or Amazon Echo Show)
- An active internet and cloud connection

5 https://www.bitkom.org/Presse/Presseinformation/3-von-10-Deutschen-haben-ein-smartes-Zuhause (German study)
6 https://www.bitkom.org/sites/default/files/file/import/170901-CT-Studie-online.pdf (German study)

Google Home:

- Homematic IP system with Homematic IP access point and devices that support language control
- Compatible smartphone (Android or iOS) with the current version of the Homematic IP app
- Current version of the Google Home app or alternatively the latest version of the Google app (only Android)
- Google account
- Compatible smartphone or tablet (the minimum requirements to the operating system for running the Google Home app must be fulfilled)
- An active internet and cloud connection
- Google Home device (optional)

Voice control services always require an active internet and cloud connection as well and thus should be complemented by additional direct links with Homematic IP devices, in order to guarantee device control in the event of an internet failure for example.

15.2 Voice control with Amazon Alexa

15.2.1 Setting up Amazon Alexa

- Connect your Alexa-enabled loud speaker via the mains cable to the power supply.
- Download the free Alexa app to your smartphone.
- Start the Alexa app and log into your Amazon account with your login data.

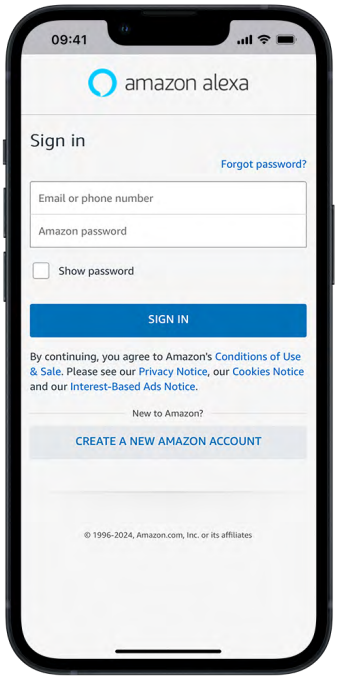


Figure 32: Screenshot Amazon Alexa login

- Tap on the device symbol .
- Tap on the + symbol in the upper right corner of the screen and subsequently on "Add device".
- Tap on "Amazon Echo", select the Echo device you want to set up and connect your Amazon Alexa-enabled loud speaker with your WiFi. Follow the instructions in the app.
- This will be followed by the message: "You are now connected. Please go back to the Alexa app."
- Tap on "Continue".
- Choose the WiFi and tap on "Connect".
- Tab the "Continue" button if the setup is completed.

15.2.1.1 Connecting your Homematic IP smart home system with Alexa

Automatic procedure (recommended)

- Open the Homematic IP app.
- Under "More..." in the app's main menu, select the menu item "Voice control and additional services" and select "Amazon Alexa".
- Tap on "Link Alexa (automatic procedure)".
- Tap on "Pair with Alexa" and enter your administrator PIN.

Figure 33: Automatic linking procedure screenshot

If links with Alexa have already been made, you can delete them if necessary by clicking on the button "Cancel all Alexa links".

- If you have activated user rights, you must enter your administrator PIN. Then tap on “Query”.
- Activate the Alexa Skill by tapping on "Link".

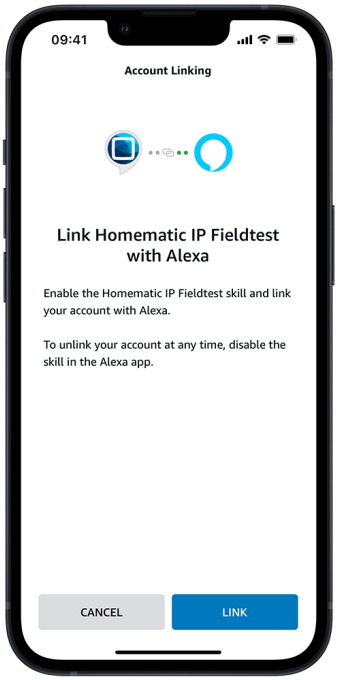


Figure 34: Link with Alexa Skill screenshot

- A notice appears that the link was successful.

Manual procedure (alternative)

- Open the Homematic IP app.
- Under "More..." in the app's main menu, select the menu item "Voice control and additional services" and select "Amazon Alexa".
- Tap on "Activation key (manual procedure)".
- Get the activation key for connecting the Amazon Alexa app with the Homematic IP smart home skill and copy said key.

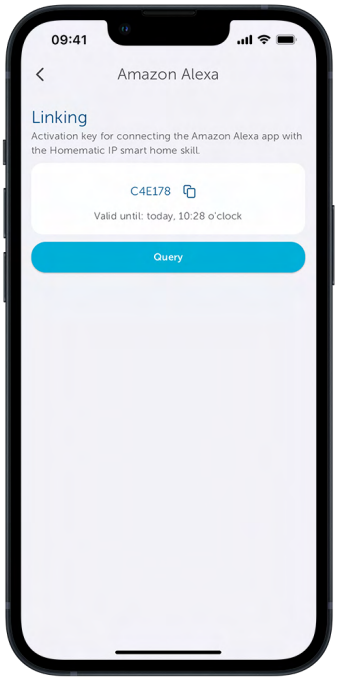


Figure 35: Screenshot copying the activation key

- Tap on “⧉”.

Switch to the Alexa app to pair the Homematic IP Smart Home Skill with Alexa:

- In the Alexa app, tap on the main menu icon “More” and select "Skills and games".
- Tap on the magnifying glass symbol and enter "Homematic IP" into the search bar.
- Choose the Homematic IP skill by tapping, and tap the “Activate for use" button.

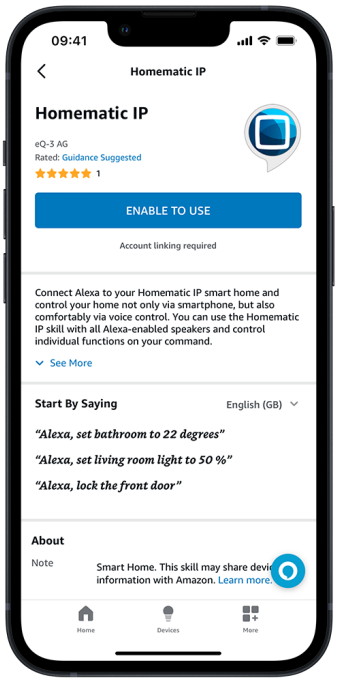


Figure 36: Screenshot of Homematic IP Skill search and activation

- Enter the activation key into the request field. To do so, hold down the entry field and tap on “Enter”.
- Press the “Send” button to establish the account linking.

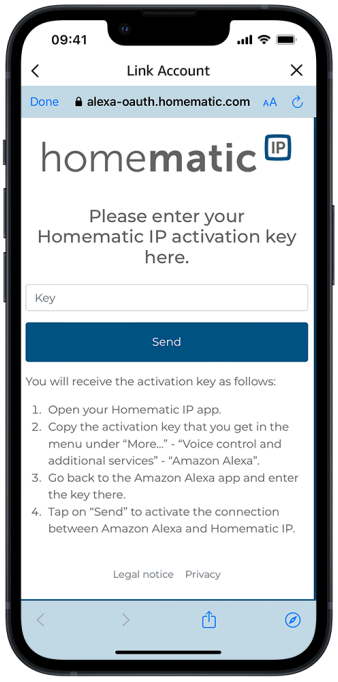


Figure 37: Screenshot entering the activation key

15.2.1.2 Setting up your Homematic IP devices

- Close the window and open the Alexa app.
- Tap on the main menu icon and there on “Add device”.
- Under the menu item "Which type of device are you setting up?", select the option "Other" and tap on "Scan for devices". This will start the scanning process.

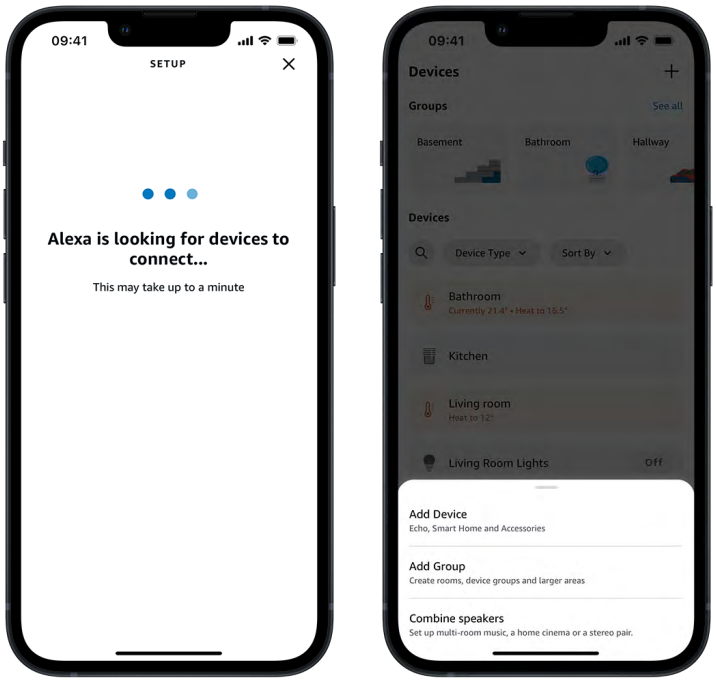


Figure 38: Screenshot searching devices

- In the Alexa app, you will find in the menu item “Smart Home” all groups, devices and scenes that Alexa has found and can control. The descriptions of devices and functions are automatically adopted from the Homematic IP app.

You will now be able to control a large number of functions and devices of your Homematic IP smart home system via voice control.

15.2.1.3 General information about Alexa and Homematic IP

Amazon Alexa-enabled devices only react to voice commands if you say the wake word, e.g.:

“**Alexa**, *set bathroom to 29 degrees.*”

The activation word can be changed in the Alexa app.

You should use unique names for all Homematic IP devices, functions and switching groups as well as groups in the Alexa app. Only in this way Alexa will be able to assign them correctly.

Avoid descriptions with a similar beginning. For example, the description “Bedroom light” can be interpreted by Alexa as voice command for a similar heating group that is named “Bedroom” and can thus not correctly allocate the command. In contrary, if you select a description like “Lights bedroom”, this will cause less errors by Alexa.

To avoid confusion with voice commands, you can adjust the device and group names in the Homematic IP app. Refresh the device list in the Alexa app afterwards ***(see Section “15.2.1.4 Alexa update of the device list” on page 136)***.

Word-letter combinations like “Guest WC” or word-number combinations like “Kitchen 1” may under certain conditions not be processed correctly by Alexa.

15.2.1.4 Alexa update of the device list

If you have changed names of devices or functions in the Homematic IP app or if you have connected new devices you have to discover devices in the Alexa app again. This is carried out automatically on a regular basis. You can discover new devices by saying “Alexa, discover devices!” or via the app:

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

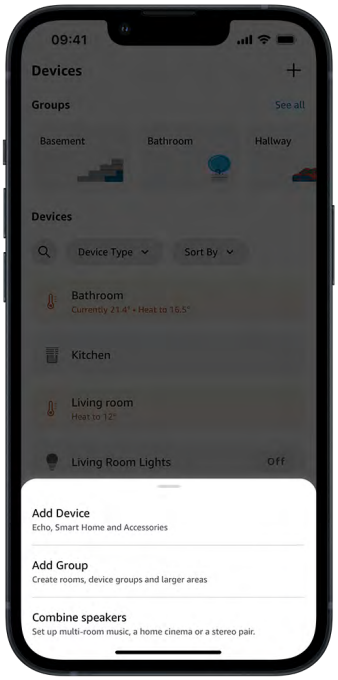


Figure 39: Screenshot devices overview

- Under the menu item "Which type of device are you setting up?", select the option "Other" and tap on "Scan for devices". The Device List update starts.
- Once the search is complete, you will find an updated list of all groups, devices and scenes that Alexa has identified and can control under "Devices" > "All devices".

If you have started the device search using the voice command "Alexa, search devices", the devices will only appear under "Devices" when you refresh the device list by swiping downwards.

If you use the Homematic IP App to delete Homematic IP devices from your system or change the allocation to a solution, the devices will not automatically be deleted from the Alexa “Devices” list. You must delete these manually. To do this, proceed as follows:

- On the Amazon Alexa home page, tap the device icon and select "All devices".

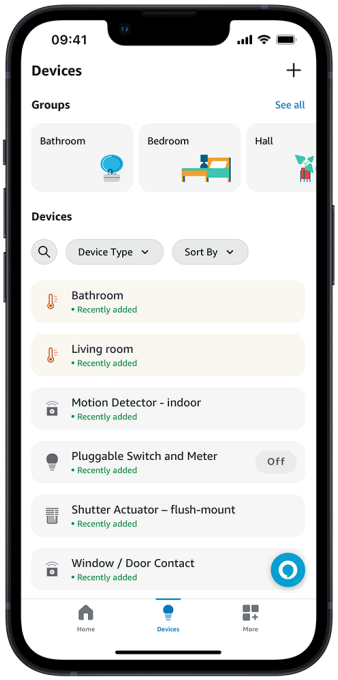


Figure 40: Screenshot Alexa device list

- Under "Devices", select the room or function you want to delete, tap the cogwheel icon at the top right of the screen and then tap the recycle bin icon. Confirm the process by tapping on "Delete".

Alternatively, you can delete these devices manually on the Amazon Alexa website:

- Log into the Amazon Alexa website (e.g. alexa.amazon.com) on your PC with your Amazon account details and click on "Smart Home".
- Click on "Discard all" and start the update of the device list by clicking on "Search".

15.2.1.5 Devices and functions supported by Amazon Alexa

Device/function	On/ Up	Off/ Down	Set %	Raise %	Lower %	Set °C	Raise °C	Lower °C	Values/ Status retrieval	Locking/closing and opening
Switching actuators	✓	✓								
Dimming actuators	✓	✓	✓	✓	✓					
Shutter and blind actuators	✓	✓	✓	✓	✓					
Temperature sensors									✓	
Weather sensors									✓	
Door lock drives									✓	✓
Module for garage door drive									✓	✓
Switching groups	✓	✓								
Heating groups						✓	✓	✓	✓*	
Shutter groups			✓							
Presence mode	✓									
Absence mode	✓									
Eco mode	✓	✓								

* Setpoint and actual temperatures

15.2.1.6 Voice command examples

When using switch actuators, switch actuators and meter, pluggable switches as well as pluggable switches and meter, you can switch connected devices on and off.
Example:

*"**Alexa**, turn on the bedroom light."*

Lights that are controlled by a dimming actuator can be switched on and off as well:
Example:

*"**Alexa**, turn on the living room lights."*

Furthermore, lights can be set to a desired brightness value:
Example:

*"**Alexa**, set living room light to 50 percent."*
*"**Alexa**, increase living room light by 20 percent."*
*"**Alexa**, decrease bedroom light by 40 percent."*

Furthermore, shutters and blinds can be moved via voice command to a desired height. Example:

*"**Alexa**, set bedroom shutters to 50 percent."*
*"**Alexa**, raise/lower the roller shutters in the children's room by 30%."*

Switching groups that have been defined via the Homematic IP app can be switched on and off:
Example:

*"**Alexa**, turn on the ground floor lights."*

Security functions like the presence mode or absence mode can be activated via voice command:
Example:

*"**Alexa**, activate the absence mode."*

For security reasons, alarm functions can be activated but not deactivated via voice commands. The system is already preconfigured such that voice command devices do not even execute any voice commands concerning further Homematic IP functions during activated absence mode and activated presence mode. You can configure your system via the app in the menu under Voice command and additional services - control when protection is active so that you can control Homematic IP functions via voice commands even when envelope protection or full protection is active.

You can also activate or deactivate the eco mode:
Example:

*"**Alexa**, activate the eco mode."*

It is also possible to query the current actual and setpoint temperature of a room, provided that a heating group with a temperature sensor is available:
Example:

***Alexa**, what is the temperature in the living room?"*

The voice command "Alexa, raise/lower roller shutter", without the addition "move", does not raise or lower the roller shutter completely, but to 25%.

It is not possible to control slats by voice command.

Doors and garage doors can be locked, closed and opened by voice command.
Example:

*"**Alexa**, lock the front door."*
*"**Alexa**, open the door lock."*
*"**Alexa**, open the garage door."*

To unlock doors by voice command, the Alexa user must be assigned an access authorisation in the Homematic IP App. You may not set a PIN in this access authorisation. The "Unlock by voice command" function must be activated in the Amazon Alexa app and a PIN must be assigned for this. This PIN is requested each time the door is to be opened. An unlocking attempt via Amazon Alexa is rejected if the PIN is incorrect or the access authorisation is not currently active due to the time profile.

15.2.1.7 Alexa smart home device groups

In the Alexa app, you can organise your devices or switching groups into groups and control all devices of a group via voice command. For example, several rooms can be allocated to a group. In this way, you can adjust the temperature in all rooms of the ground floor at the same time.

- In the Alexa app, tap the device icon .

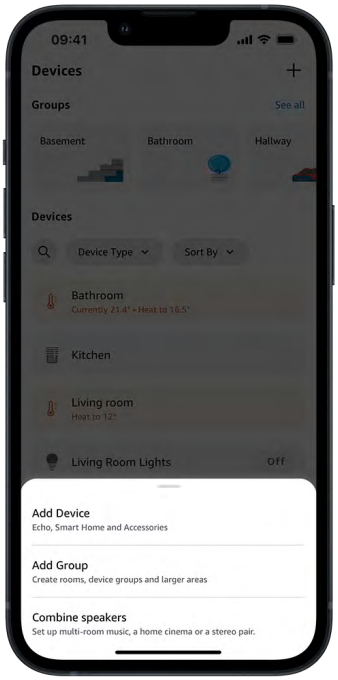


Figure 41: Screenshot groups overview

- Tap on the "+" icon and select "Add group".
- Enter the name of the group into the text box, e.g. “Heating entire house”.
- Tap on "Done".
- Use the checkbox to select all the “Devices” that you want to assign to this your group, and tap on the “Save” button.

Now you can control all devices of this group with only one voice command. With the group function of the Alexa app, also different systems like Homematic IP and Philips Hue can be combined and controlled via voice command.

In the Alexa app, you can change the group name and add and delete devices at any time by tapping on the group name and adding or deleting the new devices.

When creating groups in the Alexa app, please make sure that only similar rooms and devices are allocated to one group (e.g. rooms for heating control or pluggable switches and switch actuators for controlling lights).

When entering names, please make sure that they can be correctly assigned to avoid any confusion.

Commands for group functions are executed one after the other, not all at once.

15.2.2 Alexa routines

With Alexa routines, you can set up the digital assistant so that it starts one or more actions in your smart home with just one voice command or alternatively at a defined time, which you can define in the Alexa app. Routines are not only limited to controlling smart home devices, but numerous Alexa functions and services can also be integrated. For example, you can set up a good morning routine that can be used to start a wide variety of actions with just one voice command.
You can create different routines as you wish, for example for a perfect film night. Or you can create a routine that switches off all the lights when you leave your home and activates eco mode and full protection for your home.
Routines can be easily set up via the Alexa app and deactivated and reactivated at any time depending on the situation and requirements. The ability to control not only individual devices via routines, but also already set up Alexa groups and scenes, makes creating routines even easier.

15.2.2.1 Creating routines

- Start the Alexa app and select "Routines" from the main menu of the Alexa app.

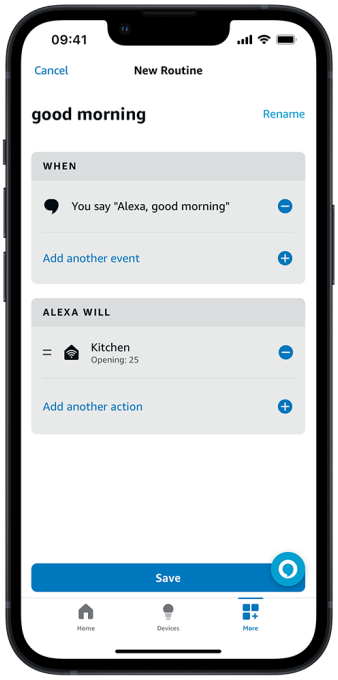


Figure 42: Creating an Alexa routine

- Tap on the "+" icon.
- Tap on "When the following happens". The following options are available in this menu:
  - "Voice service" for starting routines by voice command
  - "Plan" for routines that are to be activated regularly at a specific time
  - "Device" for starting routines via other Alexa devices such as the Echo Plus
  - "Echo button" for starting routines via an echo button
- For example, tap on "Voice service" and then enter the text for the desired voice command, e.g. "Good morning".
- Tap on "Save".
- Tap on "Add action". In this menu item, you specify which actions are to be triggered.

Application example

In the "Smart Home" menu item, you will find Homematic IP devices and scenes that can be integrated into Alexa routines.

Action 1

- Tap on "Smart Home" and then on "Control device".

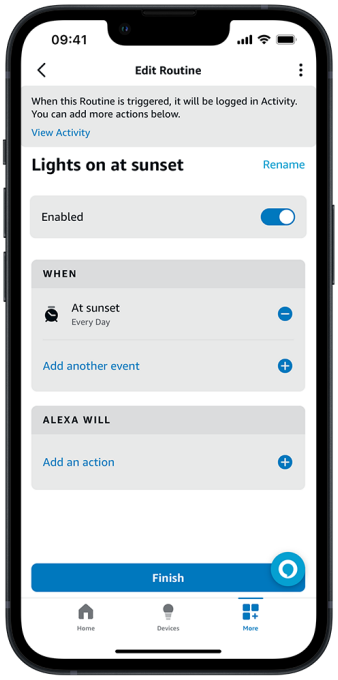


Figure 43: Creating an Alexa routine

- For example, select "Bedroom light". By tapping the lamp icon, you can select whether the light should be switched on or off. If the light is controlled via a dimming actuator, you also have the option of using a slider to determine the brightness.
- Select "Switch on bedroom light" and set the brightness to 50%.
- Tap on "Continue".
- Tap "Save" to create and save the routine with the selected actions.

You have the option of adding further actions to your routine at any time. With the voice command "Alexa, good morning", for example, the light in the bedroom is switched on and dimmed to 50%, the blinds are raised at the same time, the underfloor heating in the bathroom is switched on and the envelope protection is deactivated. Alexa routines can also be extended with additional services. For example, you can be woken up by music and have the current local weather report or the traffic situation on the way to your workplace read out to you if you have fully configured the Alexa app.

The deactivation of presence mode and absence mode via voice commands is only possible if the option "In every mode" is selected under "Settings", "Voice control", "Control with active protection" in the Homematic IP app.

15.2.2.2 Deleting the connection between Homematic IP and Alexa

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

- Open the Homematic IP app and in the menu, tap “Settings” in the “General” section.
- Select “User overview”. In the next window, choose the “Amazon Alexa Client”.
- Swipe left to open the message for deleting the client. Tap on “🗑”. The connection between Homematic IP and Amazon Alexa is deleted.

Open the Alexa app and deactivate the Homematic IP skill here:

- Open the left navigation area in the Alexa app and tap on “Smart Home”. Scroll to the bottom of the screen and tap on "MY SMART HOME SKILLS". Tap on the Homematic IP button and on "DEACTIVATE SKILL" in the following window. This will delete the account linking.
- Tap on the button "Homematic IP" and subsequently on "Deactivate skill".

15.3 Voice control with Google Assistant/Home

15.3.1 Setting up Google Home

- Connect your Google Home-enabled loud speaker via the mains cable to the power supply.
- Download the free Google Home app to your smartphone.
- Open the Google Home app and tap on "Start now".
- Select the Google account you want to use with the Google Home app and confirm your selection. This will prompt a scan for Google Home-enabled loud speakers.
- Connect your Google compatible loud speakers with your Google account and set up your Google Home compatible loud speakers. Follow the instructions in the app.

To connect Google Home with your Homematic IP system, proceed as follows:

- Open the Homematic IP app and tap in the main menu on “Settings”, “Voice control and additional services” and there select “Google Assistant/Home” and “Coupling”.
- After tapping on "Retrieve", the next window will show you the activation key.

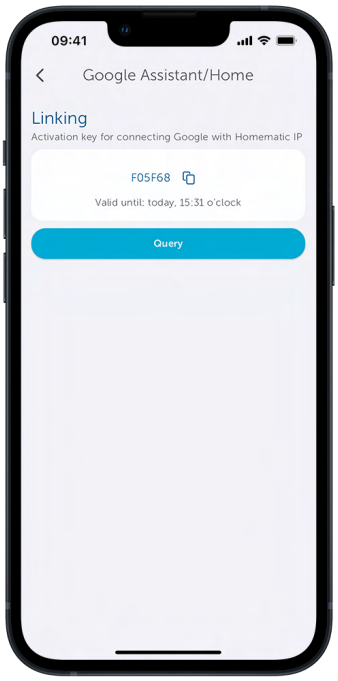


Figure 44: Screenshot copying the activation key

- Tap on “⧉”.
- In the Google Home app, tap the "+" icon in the settings. In the next window, tap on "Device".
- Tap on "Works with Google Home" in the setup menu and select "Homematic IP" from the list of services.
- Under certain circumstances, you have to log-in with your Google account information again.

- In the next window you will have to enter the previously copied Homematic IP activation key.

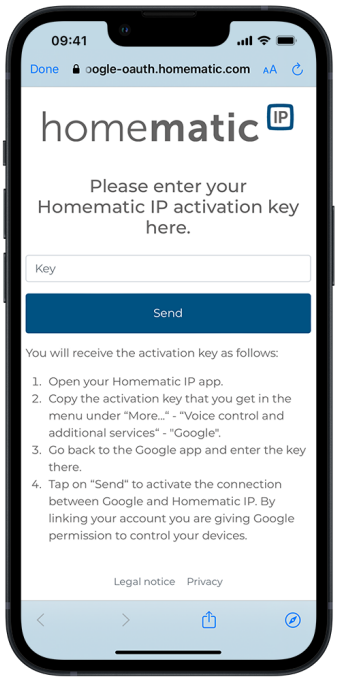


Figure 45: Screenshot entering the activation key

- Enter the activation key into the request field. Therefore, keep the entry field pressed and tap on “Enter”.
- Press the “Send” button to establish the account linking.
- Your Homematic IP service will be connected with Google Home and all available devices currently supported by Google Home will be shown in the next window.

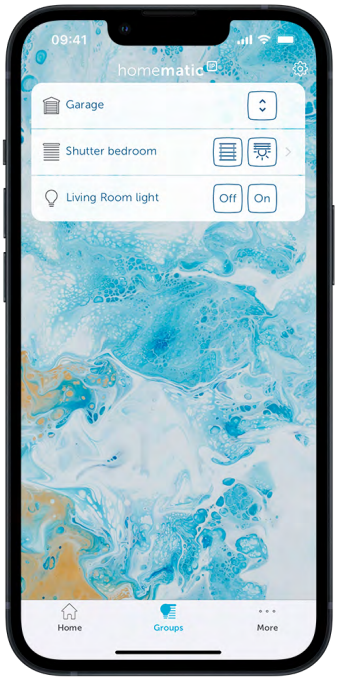


Figure 46: Screenshot devices overview

You will now be able to control a large number of functions and devices of your Homematic IP smart home system via voice control. First, assign the devices and functions to rooms, in order to make later allocation easier.

15.3.1.1 General information about Google and Homematic IP

Google-enabled devices only react to voice commands if you say the wake word, e.g.:

*"**Ok Google**, set bathroom to 29 degrees."*

You should use unique names for all Homematic IP devices, functions and Homematic IP switching groups. Only in this way Google will be able to assign them correctly.
If voice commands are not executed correctly you can adjust device and group names in the Google Home app with the function "Set a nickname" or "Nickname", to optimize the detection and allocation of voice commands.

15.3.1.2 Voice command examples

Via switching actuators and switching groups defined in the Homematic IP app you can switch your devices on an off. You can use the activation phrase "Ok Google" or "Hey Google". Example:

*"**Ok Google**, turn on the bedroom light."*

In the Google Home app, you can allocate several devices or switching groups to rooms and afterwards control all devices in a room via voice command, for example. Example:

*"**Hey Google**, turn on the living room lights."*

Furthermore, lights can be set to a desired brightness value:
Example:

*"**Ok Google**, set ceiling light in living room light to 50 percent."*
*"**Hey Google**, increase the floor lamp in living room light by 20 percent."*
*"**Ok Google**, decrease reading lamp in bedroom by 40 percent."*

You can simultaneously switch on and off the switching groups that you have defined via the Homematic IP app as well as all groups of an installation, e.g. for light control. Example:

*"**Hey Google,** turn off all lights."*

Have your roller shutters and blinds move to a desired height or open and close them completely.
Example:

*"**OK Google**, open the living room shutter actuator."*
*"**Hey Google**, close the living room blind actuator halfway."*
*"**OK Google**, tilt blind actuator kitchen by 30%."*
(adjusts the slat position of blind actuators)

Shading actuator hanging levels must be specified in reverse for voice command with Google, e.g. 20% for a height of 80%. The voice command "OK Google, raise/lower roller shutters" still works correctly, as the values are automatically reversed by the Homematic IP app.

Doors and garage doors can be locked, closed and opened by voice command.
Example:

*"**OK Google**, lock the front door."*
*"**OK Google**, open door lock."*
*"**OK Google**, open the garage door."*

To unlock doors by voice command, the Google Assistant user must be assigned an access authorisation in the Homematic IP App. A PIN must be set in this access authorisation. This PIN is requested each time the door is to be opened. An unlocking attempt with Google Assistant is rejected if the PIN is incorrect or the access authorisation is not currently active due to the time profile.

15.3.1.3 Devices and functions supported by Google

Device/function	On/ Up	Off/ Down	Set %	Raise %	Lower %	Set °C	Raise °C	Lower °C	Values/ Status retrieval	Locking/closing and opening
Switching actuators	✓	✓								
Dimming actuators	✓	✓	✓	✓	✓					
Shutter and blind actuators	✓	✓	✓	✓	✓					
Door lock drives									✓	✓
Modules for garage door openers									✓	✓
Switching groups	✓	✓	✓							
Heating groups						✓	✓	✓	✓	
Absence mode	✓									
Presence mode	✓									
Eco mode	✓	✓								

15.3.1.4 Google update of the device list

If you change the names of devices and functions such as switching groups via the Homematic IP App or if you have taught new devices, it is necessary to update the list of known Homematic IP devices. All it takes is a simple voice command such as "Ok Google, synchronise devices". Further information can be found *here*.

15.3.1.5 Deleting the connection between Homematic IP and Google Home

It may be or become necessary to cancel to account linking between Homematic IP and Google Home. To do this, proceed as follows:

- Open the Homematic IP app and in the menu, tap “Settings” in the “General” section.
- Select “User overview”. In the next window, choose the user “Google Assistant Client”.
- Swipe left to open the message for deleting the client. Tap on “🗑”.
- Open the Google Home app.
- Tap on the account symbol in the lower right corner of the main screen.

- Please ensure that the listed Google account is connected to your device. Click on the downwards arrow, if you wish to switch to another account.
- In the Google Homes app, tap on "Settings".
- Under Google Assistant services, please select "Other settings".
- Tap on the "Assistant" tab and select "Smart home control".
- In the "Devices" tab, tap on the 'kebab' [three vertical dots] menu in the upper right corner and select "Manage accounts".
- Under "Linked" select "Homematic IP", tap on "Unlink account" and confirm the account's unlinking.

The connection between Homematic IP and Google Assistant/Home is deleted.

15.4 Voice control with Google Assistant

Similar to voice control in connection with the Google Home loud speaker, you can also use the voice control without loud speaker, only via the Google Assistant app.

- Download the free Google Assistant app to your smartphone.
- Sign in with the Google account that you have also selected for Google Home. After registration, you can also use the voice control your smartphone via Google Assistant to control your Homematic IP system using voice commands.

15.5 Voice control with active protection

Due to security reasons, alarm functions can be activated but not deactivated via voice commands. The system is already preconfigured such that voice command devices do not even execute any voice commands concerning further Homematic IP functions during activated absence mode and activated presence mode.
Via the app you can configure your system in that way that voice commands can still be executed for Homematic IP functions also during active presence mode or absence mode. To do this, proceed as follows:

- Open the Homematic IP app.
- Tap on “Settings” in the menu, and under the menu item "Voice control and additional services", tap on "Control during active protection".

Here you can select between three options:

Protection deactivated:

When selecting this option, voice control is enabled only during active alarm mode “protection deactivated”.

Protection deactivated and presence mode

When selecting this option, voice control is enabled in alarm modes “protection deactivated” and “presence mode”.

in every mode

Voice control is enabled in each alarm mode.

15.6 Philips Hue

Philips Hue lamps and bulbs can also be integrated into the Homematic IP system. To do this, you must first create and register an account in the Philips Hue app (if you do not have an account). You then have the option of registering your Philips Hue Bridge online and authorising it for remote access. You will find all important information on registration and approval online under the following links:

- https://www.phttps://www.philips-hue.com/en-gb/explore-hue/get-started
- https://www.philips-hue.com/en-gb/support/connect-hue-product/accessories/hue-bridge

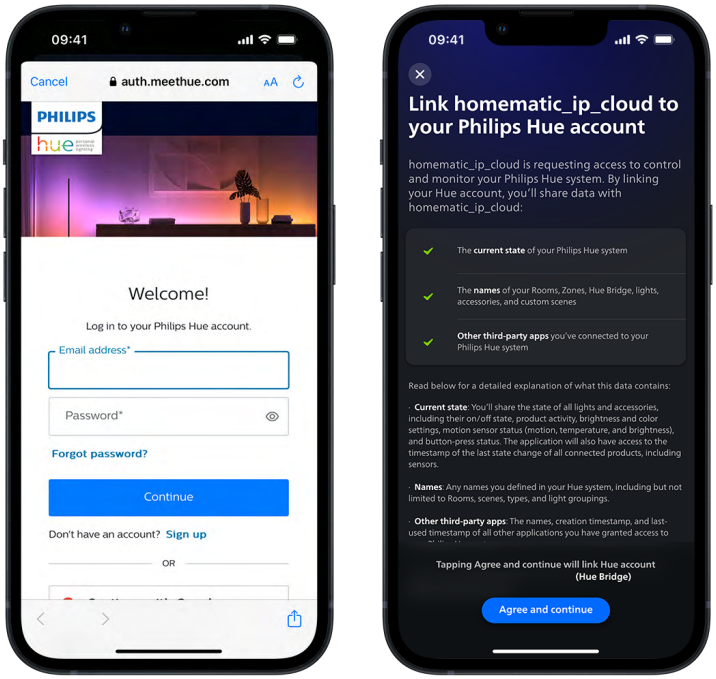


Figure 47: Registering Philips Hue

You can only pair the Philips Hue app with the Homematic IP App if you have set up an account and a registered bridge. The bridge must also be enabled for the "Out of home control" function.

Once you have successfully registered and configured your Bridge, the next step is to pair the app with the Homematic IP App.

- Open the Homematic IP App and select "...More"
- Select "Voice control and additional services"
- Tap on "Philips Hue" and then "Pair with Philips Hue"
- Enter the Administrator PIN and confirm your entry
- You must now log in online or in the app with your access data

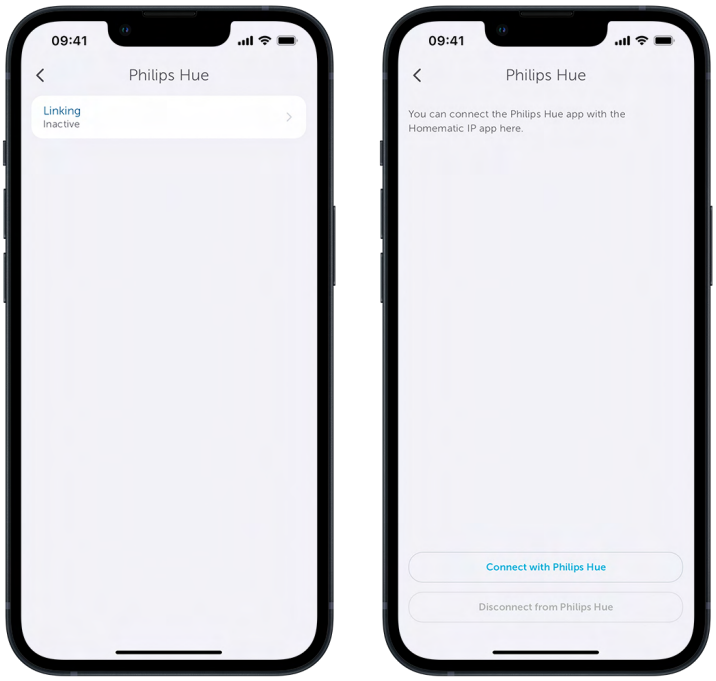


Figure 48: Pairing Philips Hue

After automatically switching to the Philips Hue app, you may need to log into the Philips Hue app again and then accept the connection.
After successful pairing, the connection is active immediately.

- Select "Device search" to display all available devices.
- Select up to 10 devices from the search.
- Confirm your selection with „✓"

The selected light sources are now displayed in the device overview under the "Not assigned" category. To be able to use lamps, you must now assign them to a corresponding room. You can then use the lamps and access them via the corresponding room on the home screen, for example.

15.6.1 Defining colour and intensity

- Define the colour or colours in which the light source should light up
- On the home screen, select the corresponding room in which a light source is linked.
- Tap on the colour circle and drag the colour picker to the corresponding colour
- Select the brightness of the colour by moving the wheel
- Tap on the "+" item below the colour wheel to define colour favourites

You can only dim Philips Hue light bulbs using the Homematic IP App. The function is not available via button or switching group.

15.6.2 Pairing light sources with buttons or groups

From now on, you can use the lamps like Homematic IP devices and also use them in switching groups *(see Section "7.2.1 Switching group" on page 59)*.

If you have assigned a switch-on duration to a group, this function will not work with the Philips Hue light source. It may be that the light remains switched on.

Please note that no time profiles are available for Philips Hue, nor are the switch-on duration and dimming levels in groups.

15.6.3 Philips Hue automations

In addition to assigning Philips Hue light sources to switching groups, you also have the option of setting up automations for your light sources. You can find more information on this in the "Automations" section *(see Section "14 Automations" on page 126)*.

15.6.4 Using active widgets with Philips Hue

Once you have assigned your Philips Hue lamps to a room and configured them, you can control them like other Homematic IP devices for lighting control using the active widget *(see Section "5.4 Widgets" on page 37)*.

15.7 Integrating an EZVIZ camera into the Homematic IP system

Benefit from reliable camera surveillance and more security within your own home: Combining Homematic IP and EZVIZ camera solutions enables you to connect smart cameras to your Homematic IP system. This way, you can always keep an eye on your home even when you're out and about, and be informed immediately via the app in the event of an alarm.

To integrate the EZVIZ camera into your Homematic IP system, you need to create an account with EZVIZ and download the EZVIZ app.

Proceed as follows to pair the EZVIZ app with your Homematic IP app:

- Tap on the main menu symbol "... More" and then on "Cameras".
- Select "EZVIZ" to pair the camera app with the Homematic IP app.
- Tap on "Activate camera" to switch directly to the EZVIZ app.

Tapping on "Activate camera" will automatically take you to the App Store if you have not yet downloaded the EZVIZ app. In the App Store, you can download the EZVIZ app for free.

- Enter your access data and select the corresponding country, e.g. Germany.

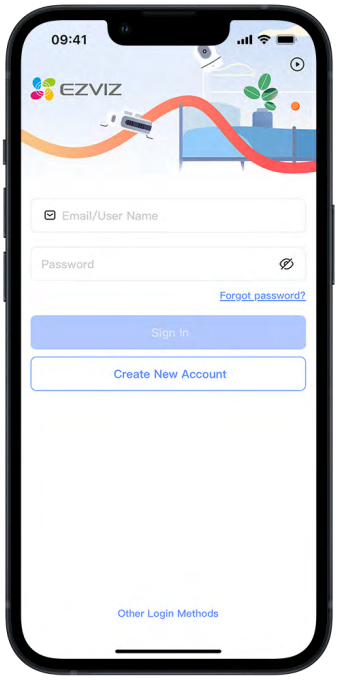


Figure 49: Registering in the EZVIZ app

If you have not previously created an account for EZVIZ use, tap on "Create new account" and follow the instructions in the app.

- Enter the verification code that appears.
- Now you can add your EZVIZ camera to the app and connect it to your network. To do this, follow the instructions in the user manual for setting up the camera.

After successful pairing, you can switch from the Homematic IP app to the EZVIZ app at any time.

- Tap on the main menu symbol "... More" and then on "Cameras".
- Select "EZVIZ" and tap on "Open EZVIZ app".

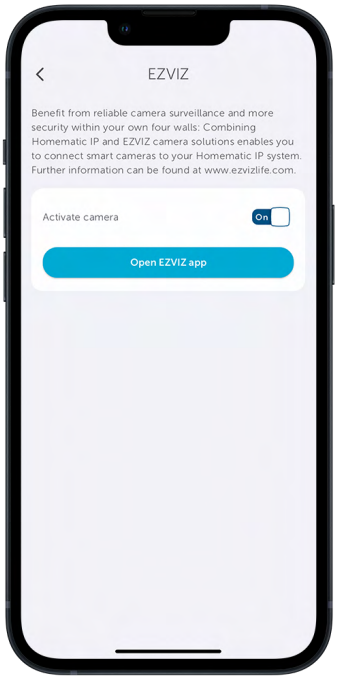


Figure 50: Switching to the EZVIZ app

Another advantage: If an alarm is triggered by your Homematic IP system when absence mode is activated, you can access the camera in the EZVIZ app directly via the camera icon in the alarm message and thus have an immediate view of your home.

16 APPENDIX

16.1 Function overview for active and inactive Internet connection

The Homematic IP system is set up and controlled via the free Homematic IP smartphone app together with the Homematic IP cloud service.

In comparison with other systems, Homematic IP actuators offer the benefit that cloud-dependent functions like heating or time profiles as well as the communication of single devices with each other remain functional also without active Internet or cloud connection thanks to an integrated memory of the devices. Cloud-dependent functions are all rules created with the "automation" function, shutter configurations like lockout protection, storm protection, heat protection or escape function as well as the integration of voice control. They are verified in the cloud and require active Internet and cloud connection at all times. We recommend connecting Homematic IP devices via group functions, such as light and shutter groups, for example. Not only does this reduce wireless traffic but the connections created via groups remain functional even when not connected to the internet.

When using voice command services like Amazon Alexa or Google, it is also recommended to use Homematic IP remote controls or push-buttons for controlling your devices to enable switching of your components also without active voice control.

The following list gives an overview of available functions with or without active internet connection:

Room climate	With Internet connection	Without internet connection	HCU1 local
Change settings via the Homematic IP app	✓	X	✓**
Heating schedule is active	✓	✓	✓
Reduction of the room temperature by window contacts when opening windows	✓	✓	✓
Transmission of room temperature settings from radiator thermostats or wall thermostats to devices in the room	✓	✓	✓
Activation of eco mode via wall-mount remote control	✓	X	✓
Activation of manual mode via app	✓	X	✓**
Activation of boost function via app	✓	X	✓**
Activation of party mode for one room via app	✓	X	✓**
Deactivation of operating lock via app	✓	X	✓**
Security and alarms			
Change settings via the Homematic IP app	✓	X	✓**
Change alarm status (disarmed)	✓	✓*	✓
Change alarm status (full protection, envelope protection)	✓	X	✓
Switching the coming home light via the key chain remote control	✓	✓	✓
Alarming via app (Push notification)	✓	X	X
Alarming via alarm siren	✓	✓	✓
Switching panic light	✓	✓	✓
Switching alarm light	✓	X	✓
Shutter control			
Change settings via the Homematic IP app	✓	X	✓**
Switching of shutter groups via a remote control or push-button	✓	✓	✓
Executing time schedules for shutters and blinds	✓	✓	✓
Shutter functions – lockout protection, storm protection, heat protection, escape function, rain protection	✓	X	✓
Light			
Change settings via the Homematic IP app	✓	X	✓**
Switching/Dimming of switching groups on and off via a remote control or push-button	✓	✓	✓
Switching of switching groups via motion detectors	✓	✓	✓
Executing time schedules for switching actuators	✓	✓	✓
Additional functions			
Execution of functions prepared via automations	✓	X	✓
Execution delay for automated actions	X	X	✓
Sending push notifications (automation)	✓	X	X
Voice control via Amazon Alexa or Google Home	✓	X	X

* Only via Key Ring Remote Control – alarm (HmIP-KRCA)

** The Smartphone/Tablet needs to be in the same local home network.

Limits within a Homematic IP System

System limits:

- **HmIP-HCU1**:
  max. 350 Geräte
  - 120 wireless-devices
  - 230 wired-devices
    (HmIPW-DRAP required)
- **HmIP-HAP**:
  max. 120 devices

Recommendations:
- 20* rooms

*(Limit is 40 rooms)
- max. 15 smartphones

Switching groups in the solution „Light and shading“:
- max. 10 sensors or 5 push-button pairs in one switching group
- max. 10 actuators in one shading group
- max. 10 sensors or push-button pairs in one shading group
- max. 10 actuators in one shading group

Range extension with pluggable switch or, respectively, pluggable switch and meter:
- max. 2 in one system

Solution		maximum number of devices in a room / system	
Room climate	within a room	1	Wall Thermostat
		8	Radiator thermostats
		8	Switch actuators for two-point control
		10	Floor heating controller (channels)
		8	Door/window contacts
		3	Button pairs for hot water
		20	Motorised window and ventilation actuators (HmIP-WUA)
		10	Buttons, input contacts for window/ventilation control
	within a system	5	Push-button pairs for eco function
		10	Heating demand functions (e.g. output at MIOB)
		5	Dehumidifier functions (e.g. connection to MIOB)
		5	Multi IO boxes/switch actuators for heating systems
Security	within a room	20	Door/window contacts
		20	Motion detectors
	within a system	4	Push-button pairs for panic light
		4	Alarm Sirens
		4	Pluggable switches/pluggable switches and meter
		8	Key Ring Remote Control – alarm
		32	Buttons, input contacts for activating/deactivating
Light and shade	within a room	20	Motion detectors
		8	Lightsensors – outdoors
		30	Switch actuators/Switching and meter actuators/Dimming actuators
		20	Shutter and blind actuators
		80	Push-buttons/Input contacts
		30	Notification lights (HmIP-BSL)
		8	Tilt/acceleration sensors
Weather	within a room	10	Light sensors – outdoors
	within a system	10	Weather sensors/Temperature and humidity sensors – outdoors

Access	within a room	8	Door Lock Drives
		8	Garage Door Modules
		2	Door Lock Sensors
		80	Push-buttons/Input contacts/User channels
	within a system	8	Key Ring Remote Control – access
Energymanagement	within a room	10	Energysensors/Switching and meter actuators

16.2 Troubleshooting check-list

We have created the following check-list to find out possible malfunctions and its troubleshooting based on a list of questions.

Malfunctions	Check box
Internet connection For setup and operation of your Homematic IP system, active Internet connection between the access point and the Homematic IP cloud is required. **Note:** If the Homematic IP Access Point should not be able to connect to the Internet for a longer period of time, disconnect the device for more than 10 seconds from the power supply and try again.	
Have you verified if your Internet connection is working correctly?	☐
Is the access point connected to the router using the supplied network cable?	☐
Does the system button of your access point light permanently blue?	☐
Power supply For all Homematic IP devices, correct power supply has to be established. In case of problems with single or several devices, please check the following:	
Is your access point plugged into a socket with the plug-in mains adapter?	☐
Are all mains-powered Homematic IP devices of your system voltage-supplied (e.g. pluggable switches correctly plugged into the socket)?	☐
Did you make sure, that the batteries of battery-powered devices have been inserted the right way around?	☐
Did you remove the insulation strip between the battery and the battery contact of the corresponding devices, e.g. window / door contacts or radiator thermostats?	☐
Are all batteries working correctly?	☐
Start-up To make sure that your Homematic IP system is working correctly, your Homematic IP access point and other components must be registered to the Homematic IP server first. Please check the following indications for incorrect or not (yet) performed registration:	
Does an error message appear in the app and did you follow the instructions for troubleshooting?	☐
The registration has not been finished successfully. For devices with display this is indicated by a flashing radio signal symbol (((•))). Did you remove all sources for radio interferences *(see Section "4.3 Wireless range" on page 18)*?	☐
The registration has not been finished successfully. For devices without display this is indicated by long red lighting of the device LED. Did you remove all sources for radio interferences *(see Section "4.3 Wireless range" on page 18)*?	☐
Radio problems In case of unfavourable locations for radio components *(see Section "4.3 Wireless range" on page 18)* , reception problems may be caused by disturbed radio communication. Please check the following indications for reception problems:	
The radio signal has not been transferred successfully. For devices with display this is indicated by a flashing radio signal symbol (((•))). Did you remove all sources for radio interferences *(see Section "4.3 Wireless range" on page 18)*?	☐
The radio signal has not been transferred successfully. For devices without display this is indicated by long red lighting of the device LED. Did you remove all sources for radio interferences *(see Section "4.3 Wireless range" on page 18)*?	☐
Does an error message appear in the app and did you follow the instructions for troubleshooting?	☐

Reception problems can be avoided from the very beginning if you verify the signal transmission quality with a test setup. Often, it is caused by building materials with high attenuation values. Also *active sources of interference* like microwave ovens and wireless phones close to radio components can influence on the radio communication. Important information for remedying radio problems by means of Advanced Routing can be found in section *"Homematic IP Advanced Routing" on page 18*.

16.3 Homematic IP radio protocol and receive modes

Advanced routing

By extending the Homematic IP protocol with advanced routing, the Homematic IP system will become even more flexible. Advanced routing enables

- The extension of the wireless range via access points,
- The connection of several electrical distribution boards via additional Homematic IP Wired Access Points and

Bidirectional communication

The radio communication between Homematic IP devices is always going on bidirectionally. The receiver confirms every radio command that is sent to him and reports to the sender that a command was recognised and executed. Bidirectional communication offers increased reliability for every system. On the other hand, and based on the type of feedback, you are informed about the current status of the devices involved at any time (e.g. window status or switching state).

Security

Your privacy is already protected in a first step: No personal data is requested or recorded for the system setup. Only the IP address is retrieved during initial configuration. Not only the setup, but also the operation is completely anonymous. Moreover, all data saved in the Homematic IP Cloud are provided on servers in Germany and are thus subject to the German and European data protection guidelines. Homematic IP is the only smart home system whose protocol, IT and data security has been certified by VDE.

In addition to the security of your data, the transmission security also ranks first. The communication of Homematic IP is secure and cannot be manipulated. Any reading or changing of data or other kinds of attack are impossible. Approved procedures are used for it which are also applied in online banking.

Optimising battery power

If Homematic IP devices are not directly triggered, they remain in "sleep mode" or stand-by-mode, which has positive influence on the battery consumption.
The system works with to different frequencies. For normal radio operation between Homematic IP device, the 868.3 MHz band is used. Special functions like wake on radio – thus "waking" of battery-powered devices – and updates of the device software update (OTAU) use an additional frequency (869.525 MHz) *(see Section "16.3.1 Device software update (OTAU)" on page 159)*.

Range

The range of devices based on radio communication depends on numerous factors, especially in buildings. This is why radio signals can be attenuated by special local structures, high humidity, barriers like inappropriately positioned furniture or metal covered surfaces. These are called attenuation. For indicating the range of radio signals, the so called open area radio frequency has been established. It describes the range of radio signals outside, i.e. without interfering influences, and with Homematic IP, it is at 150 m to 600 m depending on the device. The range in buildings is smaller due to the attenuation ; however, it is sufficient in most cases to ensure reliable radio communication. This especially applies, if the instructions of chapter *"4.3 Wireless range"* are considered for positioning the radio components.

Receive modes

Homematic IP differentiates three different receive modes:

Always Listening:

This is a mode in which the devices are listening permanently, i.e. they are ready to receive radio signals at any time. This is the case for all Homematic IP devices that are connected to the mains voltage. The low energy that is required for permanent reception of radio signals, plays a subordinated role in comparison the battery-powered devices. Examples are pluggable switches and pluggable switch and meter.

Cyclical reception:

Reception mode for battery-powered devices, where a wireless connection is established at regular intervals. For instance, the Homematic IP Radiator Thermostat is changing to receiving mode on a regular basis, e.g. to recall the current temperature from the Homematic IP Wall Thermostat.

Wake on radio:

Another reception mode that has been specially developed for battery-operated Homematic IP devices. In this case, the receiver is "woken up" to receive radio data. During the remaining time, the receiver stays in energy saving "sleeping mode". Due to this function, e.g. the Homematic IP Window / Door Contact can immediately reduce the temperature of radiator thermostat, if an open window has been detected. If the signals are directed to another Homematic IP device, the receiver will go back to the energy saving "sleeping mode".

During the development of Homematic IP, the wake on radio function of Homematic has been further improved. In Homematic, all devices "wake up" as soon as the radio communication is active on the 868.3 MHz band. For Homematic IP, this function has been moved to another frequency (869.525 MHz). However, devices that support wake on radio are woken up from "sleeping mode" only if this is really required. Another advantage is that this function does not influence on the *duty cycle limit* of the corresponding device.

All three methods are proven in millions of devices by eQ-3 and protected by patents for devices with battery-power.

16.3.1 Device software update (OTAU)

To keep your Homematic IP devices constantly up to date, Homematic IP offers the opportunity to update the device software (firmware) of the components. The device software controls all functionalities of your Homematic IP device. The OTAU method (Over The Air Update) is an especially comfortable method to provide new firmware to single devices, e.g. radiator thermostats, via radio communication.
In a Homematic IP solution, the devices software updates are performed in the background (background OTAU). In the server (Homematic IP cloud) a device list with the relevant serial numbers and firmware versions is provided. If for one or more of your Homematic IP devices a new device software is available, the Homematic IP cloud forwards this information to your Homematic IP access point. This transfers with every send radio telegram a part of the new firmware file into the memory of the device.

16.3.2 Duty cycle

Like various other radio based devices, also Homematic IP components are subject to legal regulations regarding the transmission time of radio signals (*Duty cycle limit*). The aim of this regulation is to ensure a high level of transmission security of all devices working in a defined frequency range using the short transmission times. Homematic IP devices operate in the 868.3 MHz and 869.525 MHz frequencies. The second frequency is mainly used for Wake On Radio *(see Section "16.3 Homematic IP radio protocol and receive modes" on page 157)*.

In the 868.3 MHz frequency range that is used for radio transmission of Homematic IP devices, the maximum transmission time of any device is 1 %, i.e. 36 seconds in an hour. If this limit is exceeded, the corresponding device may transmit only after the maximum transmission time falls below the limit, for example after the hour expired.

The relatively low duty cycle value of 1 % offers the benefit that the radio channels are not continuously occupied due to the short transmission times. Thus, there is a very high security level at all times. This also has positive effect on the radio wave impact *(see Section "4.3 Wireless range" on page 18)*.

During normal operation, the duty cycle is not usually reached. However, during setup or first installation of a system, repeated and wireless-intensive pairing processes mean that the duty cycle limit can be exceeded. This is usually indicated by the device temporarily working incorrectly and the flashing code of the device LED, as further transmission by the devices is prevented. The devices start working correctly again after a short period (max. 1 hour).

16.3.3 Lazy config

Due to the 'lazy config' function, configuration of Homematic IP devices is particularly easy. If configuration data is changed in the app, the Homematic IP access point "remembers" the data. Upon the next operation of the device, e.g. pressing the wall-mount remote control or – in case of an installed windows and door contact – upon opening the window, the data is transmitted automatically. Manual operation of the system button is not required.

16.4 Overview flashing behaviour of Homematic IP devices

Flashing code	Meaning	Comment
 Short orange flashing (followed by green or red lighting)	Attempting to transmit, e.g. on button press of a remote control	Please wait, until transmission has been confirmed (long green lighting) If the LED lights up long red, the radio transmission failed.
 1 x long green lighting	Transmission confirmed	You can continue operation.
 1 x long red lighting	Transmission failed (e.g. device can not be accessed or duty cycle limit is reached)	Please try again.
 Brief steady orange light (after green or red confirmation)	Low battery	Replace the batteries.
 Fast orange flashing	Configuration data is transmitted	Wait until the transmission is completed.
 Short orange flashes (every 10 s)	Pairing mode active (for 3 minutes)	Add the device.
 Alternating long and short orange flashing	Software update (OTAU)	Wait until the update is completed.
 Fast orange flashing (after long button-press)	Stage before resetting to factory settings	To start reset, press and hold down the system button again until the LED starts flashing green. Short button press will cancel reset.
 6 x long red flashes	Device defective	Please see your app for error messages or contact your retailer.

16.5 Glossary

AES-128	AES (Advanced Encryption Standard) is an established, globally valid standard for the encryption of important information. The numbers indicate the used lengths of keys in bits.
Always Listening	Receive mode in which the devices are listening permanently, i.e. they are ready to receive radio signals at any time. This is the case for all Homematic IP devices that are connected to the mains voltage.
Automatic mode	Operating mode in which the room temperature is controlled – as opposed to the eco operation – in accordance with the heating schedule selected in the Homematic IP smartphone app.
Base temperature	A base temperature of 17 °C is specified as a default. The base temperature indicates which constant temperature is to be kept in the room when the heating schedule is neither in a heating nor in a lowering phase.
Boost function	With the boost function, cool rooms can be heated within short by opening the heating valve. There will be a pleasant room temperature right away because of the radiated heat.
Cloud	Cloud: Virtual storage space where different users can access data and programs after he or she has been authorised via an Internet browser or software, like the Homematic IP smartphone app for example.
CO (Changeover)	Changes between the operating mode heating or cooling. In heating systems with a cooling function, CO provides the option of changing between the cooling and heating operation via an external switch connected to the Multi IO Box.
Damping	Reduction of radio signals with different characteristics due to barriers within buildings, like walls and ceilings, depending on the passage angle, material thickness and used materials.
Duty cycle limit	Limit for transmission time of radio devices defined by law to increase the security level.
Eco mode	Operating mode to short-time regulation of the room temperature for all or selected rooms, planned or permanently in order to save energy (unlike the auto mode).
eco function	The eco function can be activated for each heating zone. For heating , the eco temperature is 19 °C as a standard. For cooling, the eco temperature is 23 °C as a standard. You can realise switching between auto mode and eco temperature via an external clock connected to the Multi IO Box. This is not influenced by the operating mode of the wall thermostat.
Dehumidifier function of the Multi IO Box	The humidity can be influenced by the Multi IO Box. With the dehumidifier function, a threshold value can be defined for controlling a fan or dehumidifying device via the Multi IO Box.
„Window open" function	If a window is open, e.g. during ventilation, the Homematic IP system automatically reduces the temperature to save heating energy and costs. In connection with Homematic IP Window/Contacts, opening is detected at the precise time for regulation. After closing the window, the Homematic IP Radiator Thermostat changes back into the previous mode. When changing into auto mode, the temperature is regulated according to the set temperature in the week program.
Humidity input	Only in cooling operation – when the input is active, all zones stay closed and the pump remains off. For signalling, the device LED of the Multi IO Box starts flashing or the drop/cooling symbol appears on the wall thermostat.
Heating phase	A heating phase designates a period of time within a day for which a specific nominal temperature is defined. Homematic IP can realise up to six freely definable heating phases per day.
Heating schedule	With freely programmable heating schedules, you can define the desired temperature per room at any time. Per room, up to three heating schedules can be set up with up to six heating and cooling phases per day.
Presence mode	The security functions of all devices that you have selected for the presence mode are activated.
Interference	Failure in radio communication in which two or more radio waves superpose.

IPv6	The Internet protocol version 6 (IPv6) is the successor of the widespread Internet protocol IPv4 for transmission of data packages across different networks. Besides the extension of the address space, the new protocol offers a large number of technical improvements.
Actual temperature	Shows the current temperature that is measured by the wall thermostats.
LAN	Abbreviation for Local Area Network, connecting network components within a household, e.g. offices, with each other.
Load balancing	Controls the active valves via the PWM cycle and provides continuous flow of heating water.
Load collection	As far as possible, the heating zones are collectively controlled for load collection. This increases the possibility that the boiler is switched off at the end of a PWM cycle.
Lazy config	Function to make configuration of Homematic IP devices easier. If the configuration data of a certain device is changed in the app, the Homematic IP access point "remembers" the data. The data is transferred automatically as soon as the devices is operated the next time. Manual operation of the system button is not required.
Message delay	Message delay for Homematic IP Window / Door Contacts provides delayed transmission of radio signals. This function is especially appropriate for installation of window contacts on terrace doors, that are used as doors and windows for ventilation at the same time. In this time, the temperature of radiators is not reduced.
Emergency operation	The valve opening duration is recalculated every 15 minutes. If the radio communication between the wall thermostat and the floor heating actuator fails for a longer period of time, e.g. if a battery is empty, all valves are controlled automatically. In default setting, the valve is opened for 225 seconds (25 % of 15 minutes). When the radio communication is recovered the system changes back to normal operation.
OTAU	'Over the Air Update': Comfortable method for device software updates via radio.
Powerline	Technology for transmission of data via existing lines.
Primary access point	The primary access point establishes communication with the Homematic IP cloud server. If the primary access point fails, a secondary access point (if available) automatically takes over this role (see also "Secondary access point").
Pump, local	A pump is connected to heating zone 1. Thus, heating zone 1 can no longer be used for controlling a heating zone.
Pump protection function	Activation of the pump every 14 days for 1 minute
PWM cycle	Time for controlling the active valves. The cycle time is 15 minutes.
Secondary access point	A secondary access point is any additional access point that is added to the system. It is normally used as a range extender (router). If the primary access point cannot be reached, the secondary access point steps in and takes over the task of the primary access point (see also "Primary access point").
Router	Network device that connects several networks with each other. Collects status information about the network and uses this information to transfer data packages to the correct target.
Setpoint temperature	Defines the temperature to be set in a room.
Summer break period	In the summer, you can switch the heating schedule in the rooms to "manual" so that the heating schedules are no longer executed. If the heating system is switched off in the summer, the nominal temperature is to be set to 30 °C to fully open the valves. If the heating system remains switched on in the summer (e.g. in multi-family dwellings), the room temperature should be set to 5 °C so that the valves are fully closed.
Silent alarm	If the silent alarm is activated, the indoor siren and the alarm light will not be triggered. In case of alarm, the system does only send a push-notification to the app.
Sources of interference	Factors that can reduce the signal range.
Temperature limiter	Only in heating operation - if the input is active all zones stay closed and the pumps off. For indication the device LED of the Multi IO Box flashes.

Temperature offset	If the radiator is installed in an awkward location (e.g. behind a curtain or cupboard), the temperature measured by the sensor may deviate slightly from that in the room. If the thermostat is unable to compensate the difference, a general adjustment using the temperature offset has to be made. The temperature offset can be set individually for every thermostat in each room in a range of +/- 3.5 °C. If, for example, 18 °C is measured instead of the 20 °C set, an offset of -2.0 °C must be set. An offset temperature of 0.0 °C is set in the factory settings.
Detection of temperature drop	If a window is opened (e.g. for ventilation) in a room without window contact, the radiator thermostat automatically detects the sharply declining temperature. In that case, the room temperature is automatically turned down for 15 minutes to the set open-window temperature in order to save heating energy and costs. After the window is closed, the radiator thermostat is switched back to the original mode (manual operation or the active heating schedule).
Valve protection function	The programmable radiator control unit performs a decalcifying run once a week to protect against calcification of the valve.
Absence mode	The security functions of all components of the security solution are activated.
Delay	Out put is switched with a delay, as long as there is not heating/cooling demand.
Wake on radio	Receive mode especially for battery-powered devices; the receiver is woken up from ‘sleep mode’ to receive radio data. During the remaining time, the receiver stays in energy saving ‘sleeping mode’.
Wired	Technology for data transmission in home automation where wired components are used that communicate with each other via cable in a BUS system.
Cyclical reception	Describes a receive mode for battery-powered devices, where a radio connection is established at regular intervals.

homematic IP

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