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Product manual

Busch-ControlTouch[®] 6136/APP-500



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1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property, and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also pass on this manual along with it.

ABB accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact ABB or visit our Internet site at:

www.BUSCH-JAEGER.com

2 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind.

ABB accepts no liability for any failure to observe the safety instructions.

2.1 Information and symbols used

The following Instructions point to particular hazards involved in the use of the device or provide practical instructions:



Danger

Risk of death / serious damage to health

- The respective warning symbol in connection with the signal word "Danger" indicates an imminently threatening danger which leads to death or serious (irreversible) injuries.



Warning

Serious damage to health

- The respective warning symbol in connection with the signal word "Warning" indicates a threatening danger which can lead to death or serious (irreversible) injuries.



Caution

Damage to health

- The respective warning symbol in connection with the signal word "Caution" indicates a danger which can lead to minor (reversible) injuries.



Attention

Damage to property

- This symbol in connection with the signal word "Attention" indicates a situation which could cause damage to the product itself or to objects in its surroundings.



NOTE

This symbol in connection with the word "Note" indicates useful tips and recommendations for the efficient handling of the product.



This symbol alerts to electric voltage.

2.2 Intended use

The Busch-ControlTouch® is designed only for interior areas of buildings. The devices permit the easy and direct operation of building automation systems using Apple or Android or a laptop/desktop PC. In the process, control is implemented through a direct KNX connection (inside the building) or via the Internet (outside the building). The associated app detects the status of switches and dimmers, for example. As a result, they can be opened and viewed without complex programming using the app.

The device is intended for the following:

- operation according to the listed technical data.
- installation in dry interior rooms and only on mounting rails according to DIN EN 60715,
- Use with the connecting options available on the device.

The intended use also includes adherence to all specifications in this manual.

2.3 Improper use

Each use not listed in Chapter 2.2 “Intended use“ on page 7 is deemed improper use and can lead to personal injury and damage to property.

ABB is not liable for damages caused by use deemed contrary to the intended use of the device. The associated risk is borne exclusively by the user/operator.

The device is not intended for the following:

- Unauthorized structural changes
- Repairs
- Outdoor use
- The use in bathroom areas
- Insert with an additional bus coupler

2.4 Target group / Qualifications of personnel

2.4.1 Installation, commissioning and maintenance

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect
2. Secure against being re-connected
3. Ensure there is no voltage
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

2.5 Safety instructions



Danger - Electric voltage!

Electric voltage! Risk of death and fire due to electric voltage of 100 ... 240 V. Dangerous currents flow through the body when coming into direct or indirect contact with live components. This can result in electric shock, burns or even death.

- Work on the 100 ... 240 V supply system may only be performed by authorised and qualified electricians.
- Disconnect the mains power supply before installation / disassembly.
- Never use the device with damaged connecting cables.
- Do not open covers firmly bolted to the housing of the device.
- Use the device only in a technically faultless state.
- Do not make changes to or perform repairs on the device, on its components or its accessories.
- Keep the device away from water and wet surroundings.



Caution! - Risk of damaging the device due to external factors!

Moisture and contamination can damage the device.

- Protect the device against humidity, dirt and damage during transport, storage and operation.

3 Information on protection of the environment

3.1 Environment



Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with domestic waste.

- The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS)

(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006).

4 Setup and function

4.1 Device overview

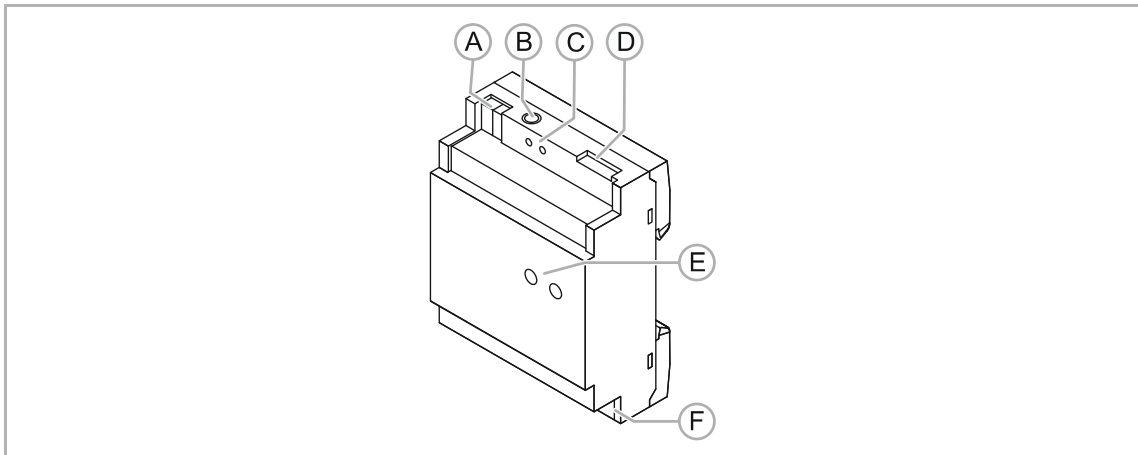


Fig. 1: Overview of devices

- [A] Connection of auxiliary voltage 5 - 36 V DC
- [B] Junction box 5 V DC
- [C] Reset button
- [D] UTP connection (LAN)
- [E] Display of operating statuses (LEDs)
- [F] KNX bus connection

The Busch-ControlTouch® is designed only for interior areas of buildings. The devices permit the easy and direct operation of building automation systems using Apple devices (also Apple SmartWatch), Android devices or a laptop/desktop PC. In the process, control is implemented via a direct KNX connection (inside the building) or via the Internet (outside the building). The associated app memorizes the status of switches and dimmers, for example. As a result, they can be opened and reproduced without complex programming using the app.

The 4 MW MDRC device can be connected directly to a KNX bus line via the integrated bus coupler.

Commissioning / parameterization is carried out web-based via MyBuildings. Also adjustments to the device settings are made here and then automatically loaded into the MDRC device. These adjustments are then available immediately. This means that all data are available at the personal access of the MyBuildings Internet portal. The direct activation is carried out via a safe Internet connection.

Additional product features:

- Easy visualization through list menu and colour concept
- Changes can be made online
- Simple APP remote control for KNX (also via VPN connection)
- Simple control of KNX functions in the building
- Integration of UPnP devices
- Integration of Sonos loudspeakers
- Integration of Philips Hue lamps
- Integration of IP cameras
- Creation of own scripts for logical functions (e.g. IF then ELSE)
- Scenes and time programs can be edited and/or adjusted by the end customer
- Use as alarm system
- Alarm and error messages via push message



Notice

A separate power adapter is required for the power supply (e.g. priOn power adaptor CP-D 24/2.5).

4.2 Scope of supply

Included in the scope of delivery are:

- 4 MW MDRC device
- UTP cable

The app can be downloaded via the Apple Store or Google Store free of charge. A power adapter for the power supply (e.g. priOn power adaptor CP-D 24/2.5) must be ordered separately!

4.3 Overview of types

Article number	Product name	Usage
6136/APP-500	Busch-ControlTouch®	Residential buildings, small to medium-sized commercial buildings, office buildings and hotels.

Table 1: Overview of types

4.4 Functions

4.4.1 Function overview

The following tables provide an overview of the control elements, possible functions and applications of the device.

Controls	
Switch	Humidity display
Dimmer	Wind speed display
Blind	Other displays
Start scene	Value transmitter
Date/time	Adjust RTC temperature
Go to account	RTC operating mode
Go to menu	Controller device
Go to page	Send command
RGB control	Slider
Push-button row	Static text
Empty line	Variable text
Buttons	IP Camera
Temperature display	Launch web side
Brightness display	Diagram
Atmospheric pressure display	RTC control element
Sonos control element	

Table 2: Overview of control elements

Functions	
Scene editor	Presence detection option (proof from local users in WiFi network via arp scan)
Weekly timer (with astro function)	Local user support (and roles with user rights)
Logic scripts (e.g. IF then ELSE)	KNXnet/IP tunnel -> ETS programming option (can be released by the end user)
Alarm messages (e-mail and push notifications)	"Read prompt" (which objects must be read after a reboot)
Diagrams (with zoom function)	"Bridge" function to convert telegrams to Philips Hue telegram
RGB / RGBW support	uPnP audio support
IP camera (MJPEG)	TCP commands (outgoing, no feedback signal!)
PTZ support (Axis, Mobotix)	HTTP commands (outgoing, no feedback signal!)
Presence simulation	Sonos control
RTC control	

Table 2: Overview of functions

Various commands can be activated using the uPnP function "UPNP COMMANDS". These commands appear automatically if a corresponding uPnP device supporting these features is connected.

These extra functions (commands) can be triggered by a scene, a time program, an action (trigger) or a script.

4.4.2 Description of functions

With the device and associated app, KNX systems can be operated with iPhone or iPod touch (also Apple Watch). User-friendliness is the main focus, both for the fitter and the end user. Most adjustments can be performed by the end user with the app.

The KNX systems are easy to operate with the app, which is free of charge. The app communicates with the device via a safe channel, which allows the app to be used also via the Internet. Since the device remembers the status of the switches and dimmers, the app can open and replay them without having to perform complicated programming.

All connected devices are participants at the KNX bus.

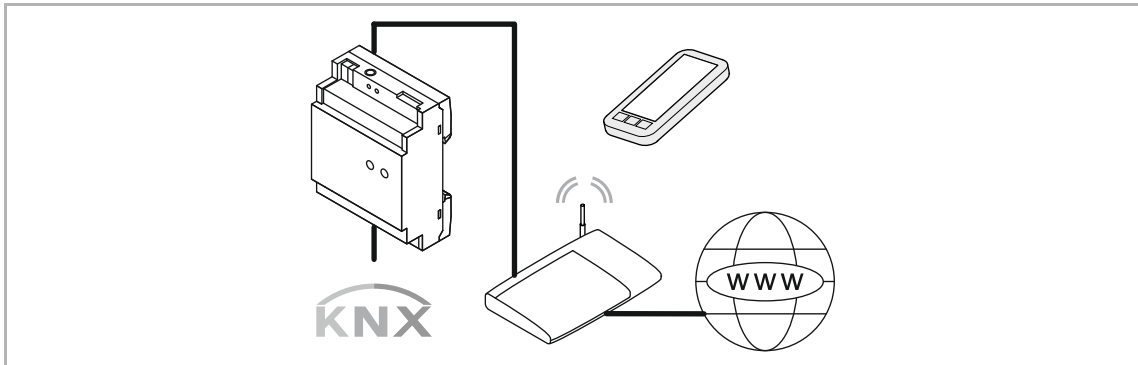


Fig. 2: Description of functions

5 Technical data

5.1 Technical data

Designation	Value
Connection voltage	Auxiliary voltage: 5 - 36 VDC
Power consumption	250 mA (at 5 VDC)
KNX connection	Bus connecting terminal, screwless
Ethernet	10 / 100 Mbit
Memory	4GB eMMC (flash), 256 MB DDR2 RAM
Processor	Cortex A5
Ambient temperature	0°C - +70°C
Relative humidity	0 – 90% (non-condensing)
Protection type	IP 20
Housing fire resistance	UL94-V0
Storage temperature	-40°C - +85°C
Input network ports used	▪ Discovery (2198 UDP)
	▪ Apps (2199 TCP)
	▪ HTTP (80 en 8000 TCP)
	▪ HTTP trigger (8001 TCP)
Output network ports used	▪ DNS (53 TCP)
	▪ NTP (123 TCP/UDP)
	▪ HTTP(80 TCP)
	▪ HTTPS (443 TCP)
	▪ KNXnet/IP (3671 UDP)
	▪ uPnP (1900 UDP, 3400 TCP)
	▪ Additional ports can be available depending on the commands.

Table 3: Technical data

5.2 Dimensional drawings

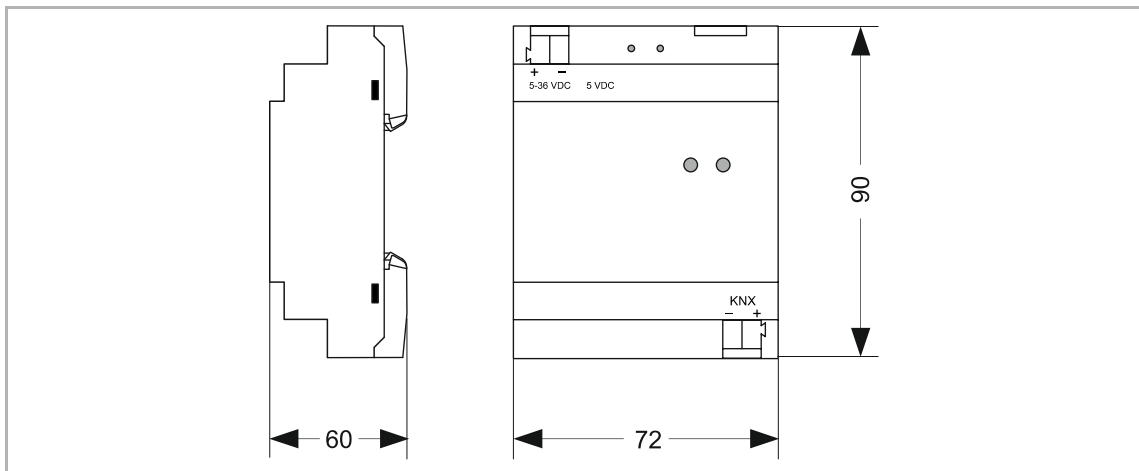


Fig. 3: Dimensions Busch-ControlTouch®



NOTE

All dimensions are in mm.

6 Connection, installation / mounting



Danger - Electric voltage!

Risk of death due to electrical voltage of 100 ... 240 V during short-circuit in the low-voltage conduit.

- Low-voltage and 100 ... 240 V conduits must not be installed together in a flush-mounted box!

6.1 Requirements for the electrician



Danger - Electric voltage!

Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
 1. Disconnect
 2. Secure against being re-connected
 3. Ensure there is no voltage
 4. Connect to earth and short-circuit
 5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

6.2 Mounting

The modular DIN rail component must only be installed on mounting rails according to DIN EN 50022 / DIN 60715 TH 35 (including industrial version).

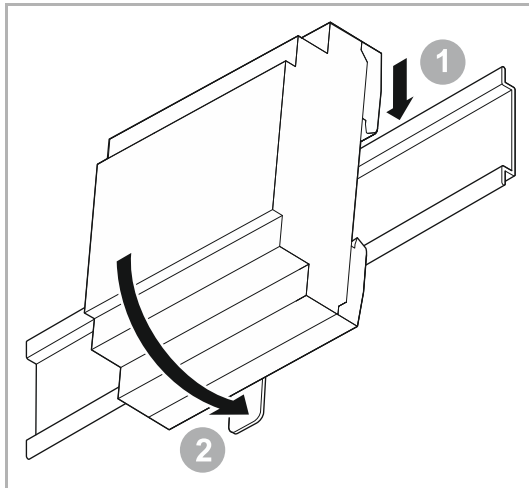


Fig. 4: Installation on mounting rails

Installation

To install the device, perform the following steps:

1. Latch the modular DIN rail component onto the mounting rail.

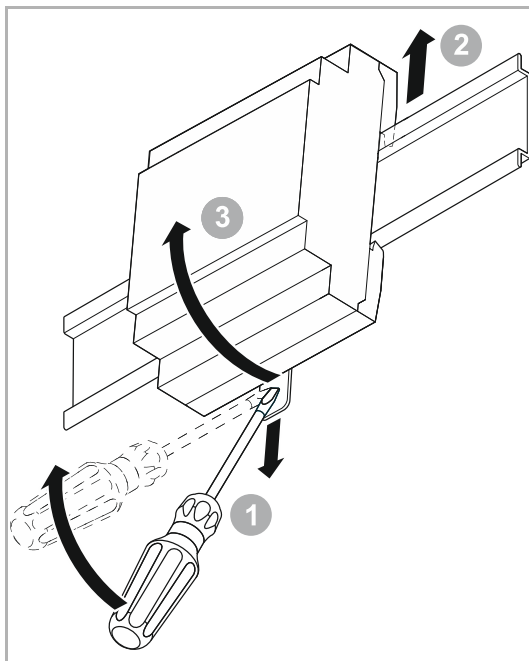


Fig. 5: Removal from the mounting rails

Dismantling

To dismantle the device, perform the following steps:

1. Pull the latch down with the aid of a screwdriver [1]
2. Press the device upwards [2] and then fold it toward the front [3].

6.3 Electrical connection

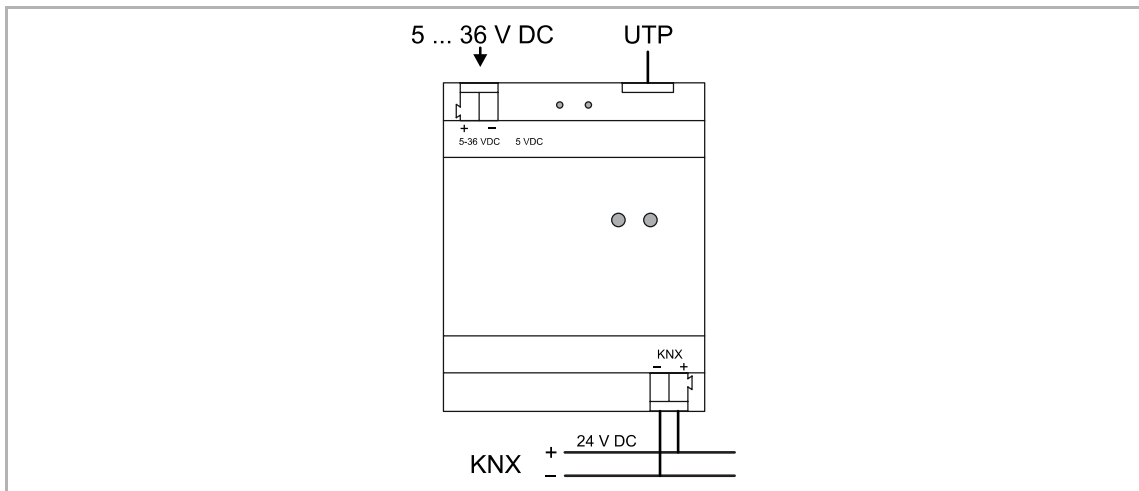


Fig. 6: Electrical connection

7 Operation

7.1 Extended operation

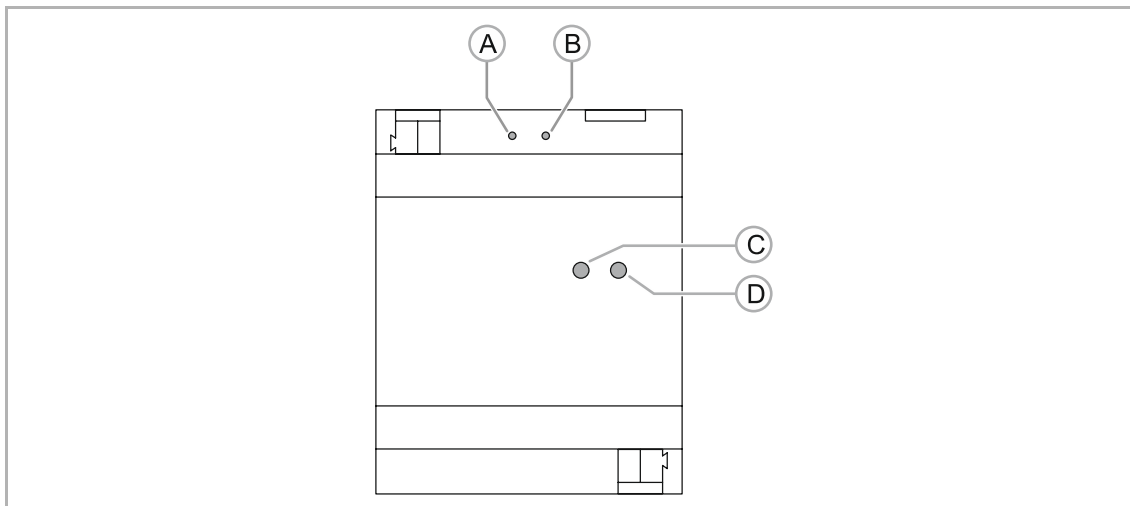


Fig. 7: Push-buttons and LEDs on the device

- [A] Push-button: R1
- [B] Push-button: R2
- [C] LED: OK
- [D] LED: Network

7.1.1 Reset options



Note

The 2 buttons can be used either for a soft restart (resetting the application) or a complete reboot.

Button	Action	Function
R1	Keep pressed during booting	Return to factory settings
	Press briefly	Complete reboot
	Press long (> 3 seconds)	Return to factory settings
R2	Press briefly	Reset of the application

7.1.2 Operating statuses



Note

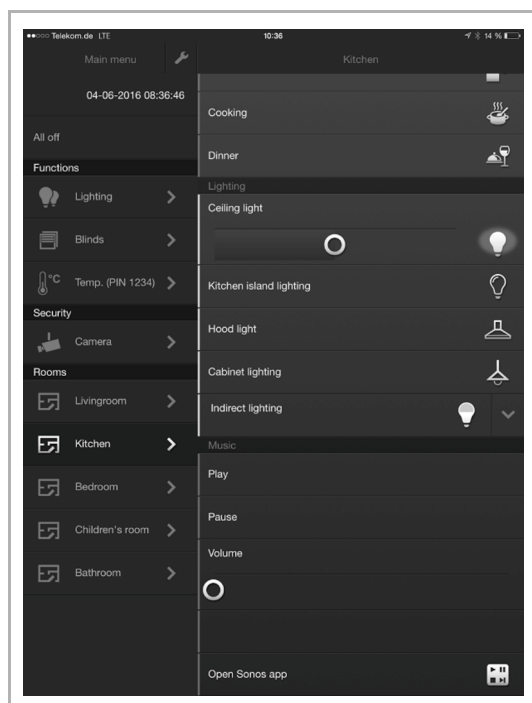
The two LEDs show one of the following,

- Operational readiness
- Status of LAN connection
- Status of KNX connection

LED	Colour	Display mode	Function
OK	Green	Flashes slowly	Booting or shutting down
	Green	Lit constantly	Application is ready to start
Network	Green	Flashes slowly	Normal procedure - OK
	Yellow	Flashes slowly	No KNX connection
	Red	Flashes fast	LAN problem, no network
	Red/green	Flashes at intervals	No Internet connection, only LAN connection

7.1.3 Operation of system via the app

After a profile has been loaded in the app (see chapter 8.7.9 “Importing a profile (import function)” on page 181), it is directly available. The devices integrated in the KNX bus system can now be operated directly via the app. The following Figure shows an example of a visualization (User interface).



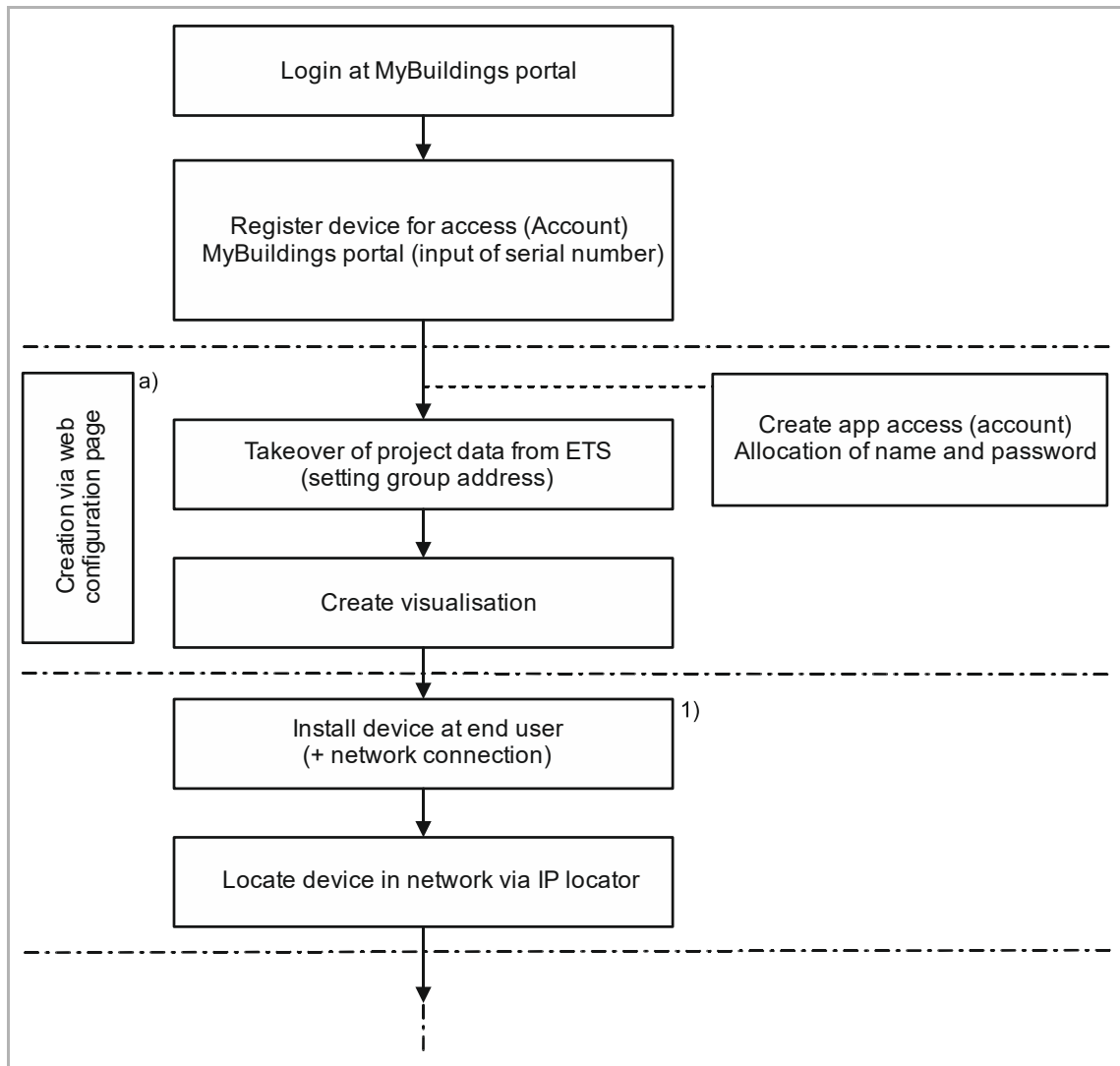
The control elements that are available and that can be created are listed in Chapter 8.7 “Creating a profile” on page 175.

Fig. 8: Control elements

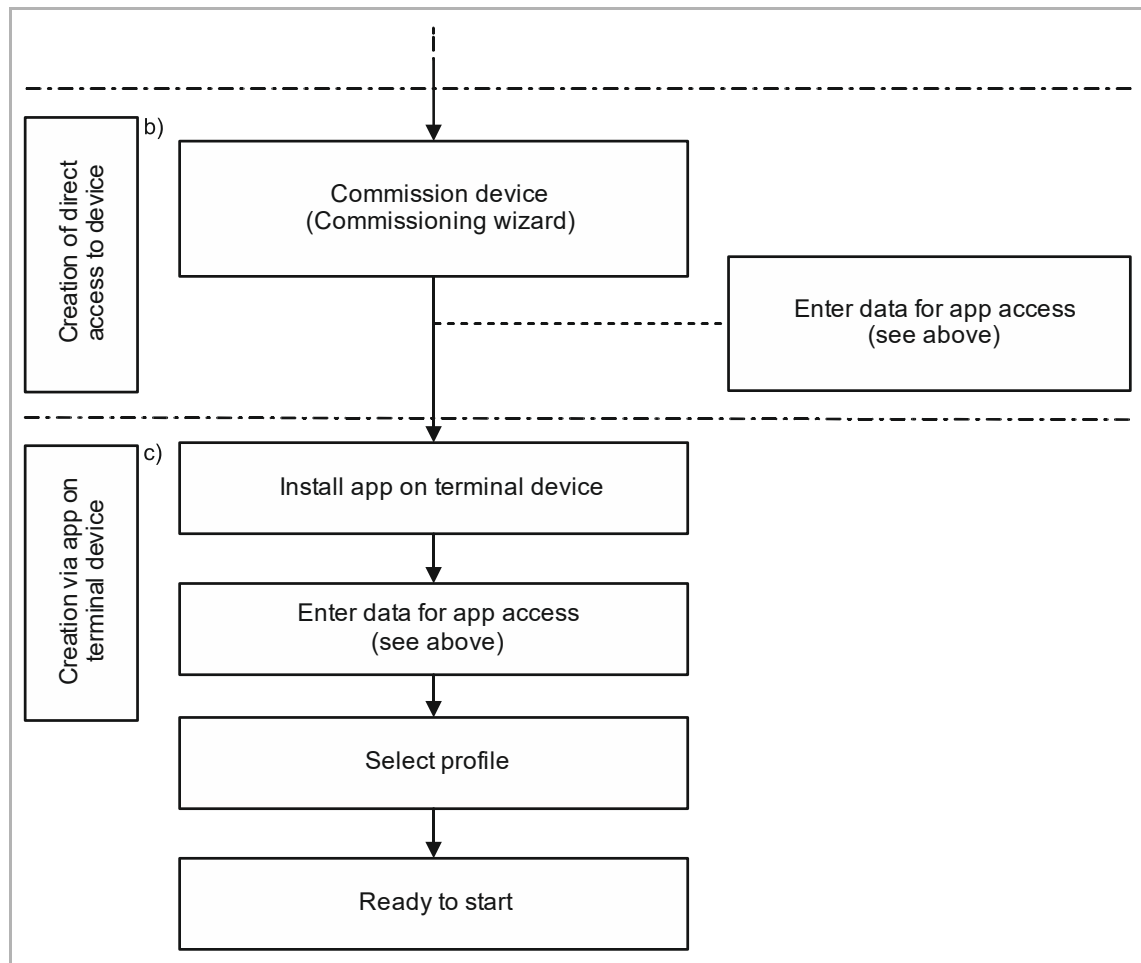
8 Commissioning

8.1 Brief instructions for typical commissioning

8.1.1 Implementation by fitter / expert

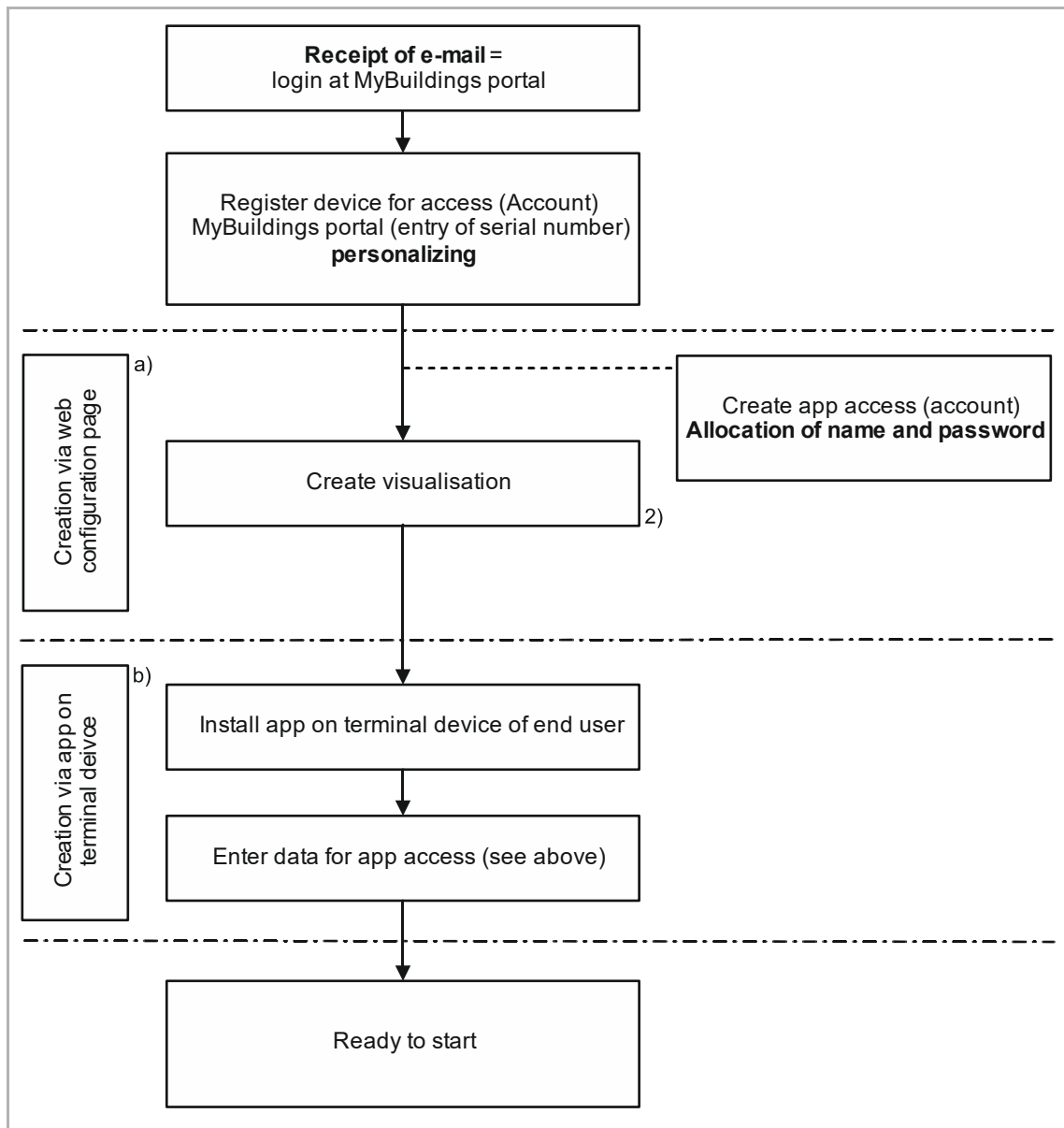


Implementation by fitter / expert (Continuation of previous view)



1. Invitation to end customer (see the following overview)
 - a) Chapter 8.3 "Explanation of commissioning procedure" on page 28 + Chapter 8.4.1.2 "Registering and setting up the Busch-ControlTouch® via MyBuildings " on page 33
 - b) Chapter 8.11.3 "Settings " on page 274
 - c) Chapter 8.9 "Importing the configuration into the Busch-ControlTouch® " on page 252

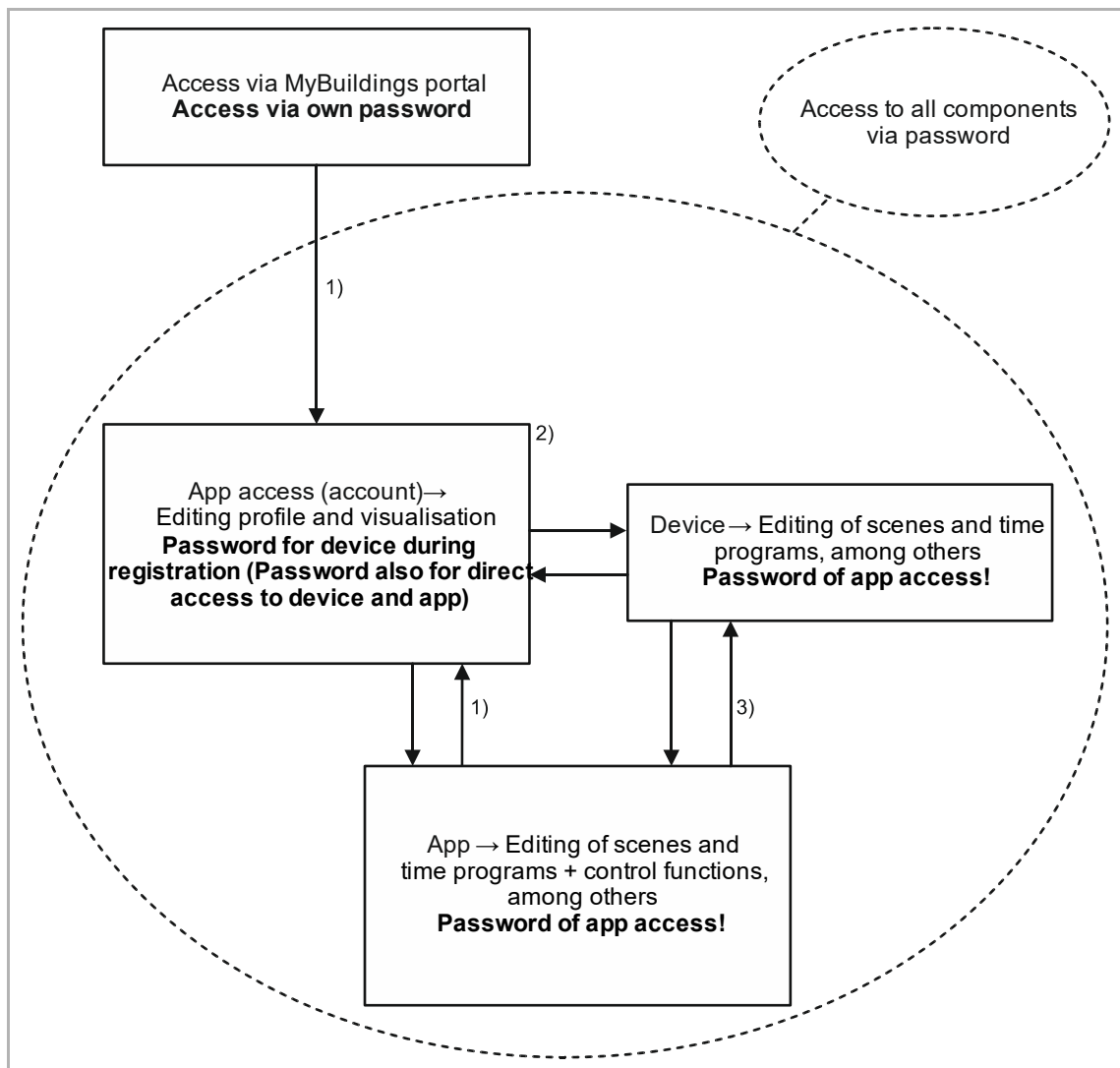
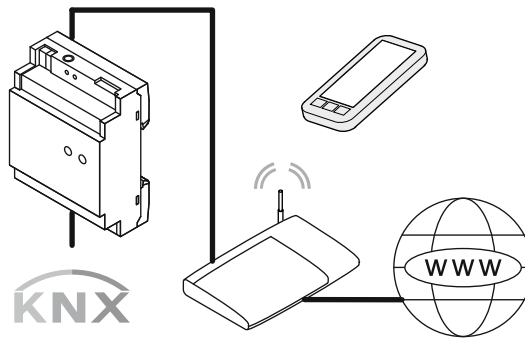
8.1.1.1 Implementation by end user (Continuation of previous view)



2. End user can adjust the visualization

- a) Chapter 8.3 "Explanation of commissioning procedure" on page 28 + Chapter 8.4 "Login / registration of a Busch-ControlTouch®" on page 31
- b) Chapter 8.9 "Importing the configuration into the Busch-ControlTouch® " on page 252

Overview of Busch-ControlTouch® system



1. Internet connection necessary
2. Connection of device and Internet connection necessary
3. Transmission of data = Connection of device and Internet connection necessary;
Control of device = Also possible via home network (without Internet)

8.2 Preparatory steps



NOTE

The devices are a product of the KNX system and meet KNX guidelines. Detailed expert knowledge by means of KNX training sessions for a better understanding is assumed. And, for all additional components of building automation (e.g. Philips Hue), the appropriate know-how must be available if they are to be used in the system.

1. Assigning group addresses:
 - The group addresses are assigned in connection with the ETS. This is carried out by the fitter.
2. Exporting project ETS4 or ETS5!
 - This file can be loaded into the profile of the Busch-ControlTouch®. This is carried out by the fitter.

8.3 Explanation of commissioning procedure

This chapter explains the working steps necessary for commissioning a Busch-ControlTouch®. It is directed at the implementing fitter (expert) and at his end customer. Each device must first be registered by an "Expert", to subsequently enable the end customer to carry out his individual configuration settings for his device. That is why the fitter must create his access to the MyBuildings and register himself. Also the end customer can let himself be registered. After the fitter has registered his device, he can generate an automatic mail to the end customer. This mail contains a link on the registration page. Here the end customer can also register himself for personal access to this device.

The commissioning procedure is described as follows:

1. Registering the device
 - Registration in advance is required for installation/configuration. This is carried out via MyBuildings (for an explanation see Chapter 8.4 "Login / registration of a Busch-ControlTouch®" on page 31) This grants one personal access for the device on the commissioning server.



NOTE

Attention! This is not direct commissioning of the device.

2. Configuration
 - Configuration is carried out via MyBuildings in a web browser. This software is used to create the system configuration.
 - The system configuration is saved on a central server and is respectively downloaded from the Busch-ControlTouch® KNX.
 - Group addresses are imported from ETS 4, ETS5 or higher by importing the KNX project directly to the commissioning server.
 - Additional optional extras, such as Philips Hue, can be configured separately. However, for this the components must be connected with the system.
3. Connection of devices (for electrical connection of Busch-ControlTouch® see Chapter 6.3 "Electrical connection" on page 21)

Additional components of building automation (e.g. Philips Hue) must be installed.



NOTE

All the devices of the system must be correctly wired and connected to the bus line! The Busch-ControlTouch must be integrated in the network. Only then is voltage to be applied to the device.

4. Commissioning of the device via direct access to it.
5. Initialization
 - Transmission of individually configured data to the device (system).
6. Installing and setup of app.



NOTE

The app for controlling the connected KNX devices can be downloaded from Apple Store or Google Store. An explanation about operation is available in Chapter 7.1.3 “Operation of system via the app “ on page 23.

8.3.1 Overview of configuration

The configuration can be divided into 4 partial components:

1. Device (Busch-ControlTouch®)

The device must be registered by the fitter. This forms the basis for the next configuration steps. Finally the device can also be registered by the end customer to carry out customer-specific changes or supplementations.

2. Project

The project includes the current technical configuration (system configuration) for the building automation system and the group addresses that are part of the project. All devices contained in the system (also add-on components such as cameras, for example) are defined here. The system components are enabled for the device and assigned to it during the transmission of the project to a Busch-ControlTouch®.

3. Profile

The profile includes the form of the visualization (user interface) for smartphones and tablets for operating the building automation system via the Busch-ControlTouch®. The visualization is enabled for the device and assigned to it during the transmission of the profile to a Busch-ControlTouch®.

4. Pages

Each profile has a start page (menu page) and generally several follow-on pages. The follow-on pages are equipped with actions (commands), which can be selected on the relevant page. This, for example, creates a page for each room. The pages therefore are the different visualization interfaces which serve for the control and operation of the profile.



NOTE

The fitter (expert) can create the project and transmit it to the device. The fitter (expert) can, of course, manage several projects and the device via an access. He also has access to the configuration environment of the end customer.

Caution!

The end customer can block the access to the profiles for the expert by means of his personal access via MyBuildings. Open the application "Busch-ControlTouch" (path: start page -> Service & Tools -> MyBuildings -> My installations -> Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The access can be blocked via the "Devices" tab by activating the function "Limited access for expert".



NOTE

The end customer can appropriately adjust the project and the associated pages. There is also the option of using several devices and profiles in parallel. The profile which is to be assigned to the device can be selected on the smartphone or the tablet.

The final sequence of the configuration is described in detail in the following, after the device has been registered and a profile has been created. The Busch-ControlTouch® must be configured appropriately before it can be used.

1. Preparation of a project with pages
2. Creation of pages. These are equipped with actions (commands), which can be selected on the relevant page.
3. Creation of the start pages (menu pages)
4. Importing the configuration into the Busch-ControlTouch®
5. Optional creation of scenes and time programs (directly in the device)
6. Installation and setting of the app

8.4 Login / registration of a Busch-ControlTouch®

The registration of your product is important to safeguard your warranty claims. The registration is also necessary to configure your device. Each device must first be registered by an installer (expert), to subsequently enable the end customer to carry out his individual configuration settings for his device. The first login must be carried out if access to the registration page is not yet available. That is why the fitter must create his access to the MyBuildings and register himself. Also the end customer can let himself be registered. After the fitter has registered his device, he can generate an automatic mail to the end customer. This mail contains a link on the registration page. Here the end customer can also register himself for personal access to this device.

8.4.1 First login of the Busch-ControlTouch® at MyBuildings without an available access

8.4.1.1 Registration and login

1. Open the MyBuildings page and register as new user. The wizard will guide you through the registration process.



NOTE

For commissioning it is absolutely essential that selection "Expert" is carried out.

Registration.

To which customer group do you belong?

I am an end customer
 I am an expert customer

Please tell us your name, e-mail address, and company headquarters.

Form of address

First name

Last name

E-Mail

Company headquarters

I am

Please define a user name and password.

Please note: The user name must be defined once and can no longer be changed later.

Username

Password

Password confirm

I accept the terms of use
 I accept the data protection terms

Fig. 9: Registration

You will receive an e-mail at the e-mail address you specified.

Your user account is activated by calling up the link in the e-mail.

2. You can now log yourself into the portal with your user name and password.

8.4.1.2 Registering and setting up the Busch-ControlTouch® via MyBuildings

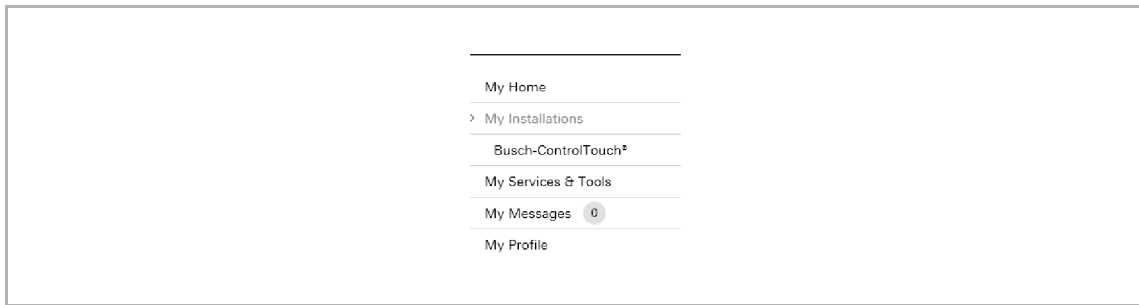


Fig. 10: Menu item "My installations"

1. Open "My installations" after the registration.
2. Then, click/tap on "Busch-ControlTouch®"
3. The, click/tap on "Call up Busch-ControlTouch®"

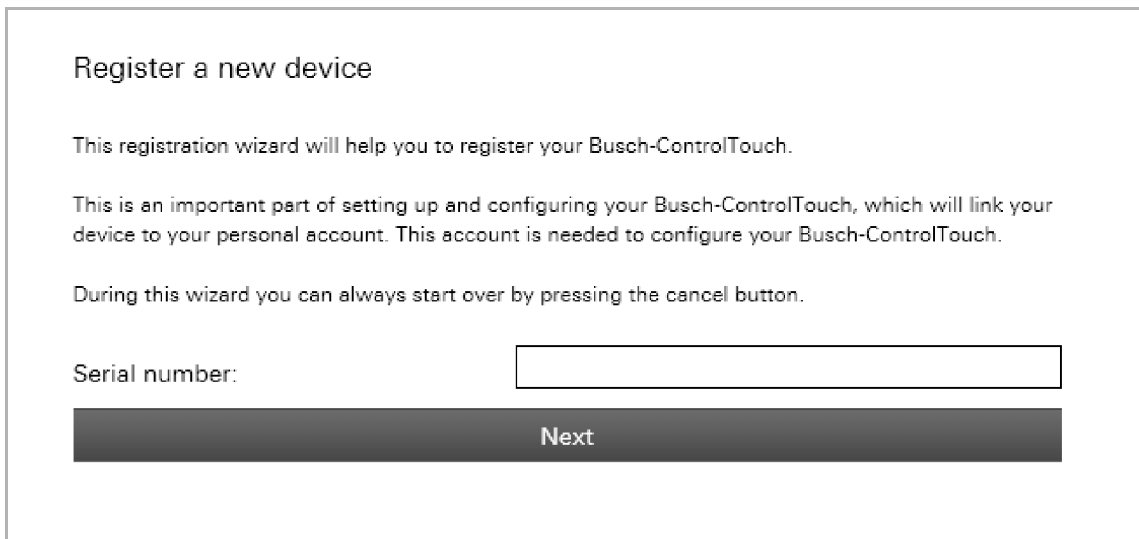
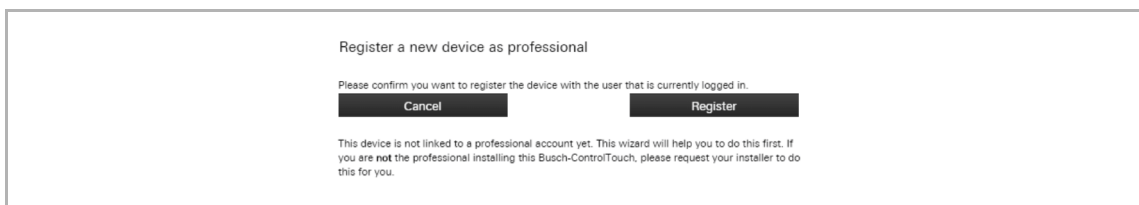


Fig. 11: Registering the device

4. Enter the serial number (see the label on the side of the device) of the device. Confirm your entry with "Next".
5. The wizard guides you through the registration.



Notice

Here you assign the user name and the password for the app access! These data will be used later also for direct commissioning and access to the app.

Register a new device

Create a new app username and password

Username:

Password:

Password (again):

Register a new device

Thank you for the registration of your Busch-ControlTouch, the registration process is finished.

6. Confirm with "Next". Now you can start to create the project ()

8.4.2 Initial commissioning of device (direct access)



NOTE

- The device must be wired and installed correctly.
- The integration into the network must have been carried out before voltage is applied to the device.
- An Internet connection must be available.

A corresponding connection to the corresponding device must be available. This connection can be easily created via a special program, the so-called "IP Locator".

8.4.2.1

Registering and setting up the Busch-ControlTouch® via MyBuildings

**NOTE**

- The "IP Locator" program (additional software: Locate your Busch-ControlTouch®) must be installed beforehand. It can be downloaded free of charge via the software download page of the e-catalogue (www.busch-jaeger-catalogue.com). During the installation please observe the details specified by the installation wizard.
- An Internet connection must exist for the link. The device must also be integrated in the network.

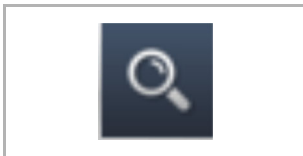


Fig. 12: IP Locator icon

1. Ensure that the device is connected correctly in the network and has been appropriately registered.
2. Open the "IP Locator" program.



Fig. 13: IP Locator

3. In the window which opens all devices correctly connected in the network are displayed (the illustration shows an example).
4. Select the appropriate device with a double click. The connection will now be established. The wizard for initial commissioning opens. It will guide you automatically through the process.

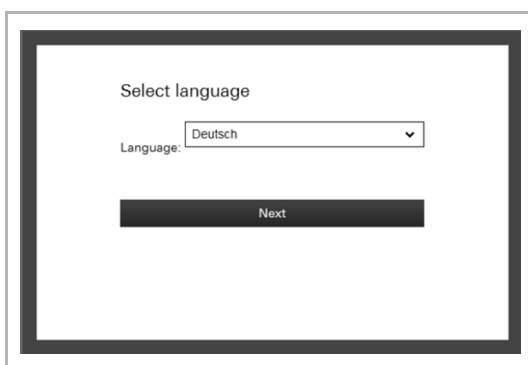


Fig. 14: Language menu

5. Select a language.

Location settings

To be able to display and calculate the correct time, sunrise and sunset, the following settings should be set correctly:

Timezone: UTC +1:00

European daylight saving time: Automatic

Location: Germany | Lüdenscheid

Latitude: 52.22

Longitude: 4.53

Next

Fig. 15: Menu for location settings

6. Enter the details for the location.

Authorize ControlTouch device

Enter the username and password of the ControlTouch app account to authorize the device.

If you have not yet registered your ControlTouch, please create this account on:
<https://controltouch.my.busch-jaeger.de/register>
 Serialnumber: 14109-53664-45686

The shared key is an optional security field and can be left empty.

Username:

Password:

Shared key (optional):

Next

Fig. 16: Menu for user name and password

7. Enter the user name and the password for personal access to the Busch-ControlTouch®, which has been assigned for the app access (see chapter 8.4.1 “First login of the Busch-ControlTouch® at MyBuildings without an available access“ on page 32). The device will be appropriately validated.

Network settings

Please check the network settings below.
A static IP address might be required to prevent the ControlTouch from receiving a different IP address after a reboot.

DHCP: enabled disabled

IPv4 IPv6

IP address:

Netmask:

Gateway:

IPv4 / IPv6

DNS:

DNS (2):

DNS (3):

DNS (4):

MAC address: 00:50:c2:c9:f6:50

Next

Fig. 17: Menu for network settings

Ready

The settings have been saved.
Please check the protocol settings on the protocol settings page to connect to KNX, UPnP, etc.

Close

Fig. 18: Installation is complete

- Then check the network settings for the connected device.

- Complete initial commissioning.

The direct access page to the device opens (see chapter 8.8 “Additional settings (configuration page)” on page 237).

8.4.3 Sending an invitation to the customer

If desired, the customer can also receive personal access to the configuration of the device. This allows him to adjust profile settings (depending on the access rights). For this, a login is required at MyBuildings (if necessary, also an initial registration must be carried out).

The device should be appropriately set up before the invitation is sent (see previous chapter). The end customer receives an e-mail with a link for the registration page. There he can set up his personal access to the device, as described in Chapter 8.4.1 “First login of the Busch-ControlTouch® at MyBuildings without an available access” on page 32. The fitter must set the sending in the configuration page see chapter “Sending an invitation to the customer” on page 247.

8.4.4 Login of new Busch-ControlTouch® at MyBuildings with existing access

Login at the MyBuildings portal



NOTE

The fitter (expert) can have access, but manage several devices via the access.

1. Open the page MyBuildings.
2. Log yourself into the portal with your user name and password.
3. Registering and setting up the Busch-ControlTouch® via the MyBuildings portal:

No device has yet been registered.

After the login you are requested to admit the access to the Busch-ControlTouch®.

- a. To do this, tap on the corresponding button.

A device has already been registered.

- a. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®) and click on the following button:



- b. Click on "+ Register a new device".

4. Then enter the serial number (see the label on the side of the device) of the device.
5. Confirm the entry.

The wizard guides you through the registration.

6. After the registration, follow the specifications in Chapter 8.4.2 "Initial commissioning of device (direct access)" on page 35 and Chapter 8.4.3 "Sending an invitation to the customer" on page 38.

8.5 Device registration and project creation via wizard

After the registration you start normally in the view of the setup wizard. You can also register and set up your Busch-ControlTouch® via the setup wizard. The setup wizard is the simplified view of the extended mode and leads you step by step through the configuration of your Busch-ControlTouch® and the creation of the project. This is of assistance especially during initial commissioning of the Busch-ControlTouch®.



Notice

With a click on "Change to extended mode" you can configure the devices and projects in the extended mode (see executions from Chapter 8.4 "Login / registration of a Busch-ControlTouch®" on page 31).

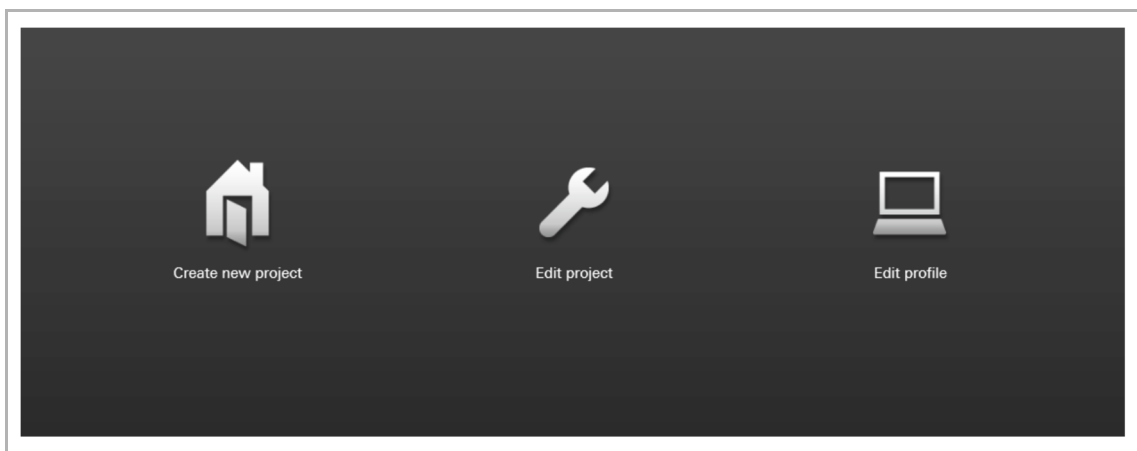


Abb. 19: Wizard

The following options for selection are available on the start screen of the setup wizard:

- Create new project: Starts the wizard for the registration of the device and project configuration.
- Edit project: Editing of existing projects.
- Edit Profile: Editing of existing profiles.

When selecting the option "Create new project" or option "Edit project" you are transferred to an overview with the individual steps of commissioning.

1. Click/tap on button "Create new project" or "Edit project".
 - [a] With a click/tap on the "Create new project" button you are directly transferred to the project configuration.
 - [b] With a click/tap on the "Edit project" you are transferred to the 'select project' page. Click/tap on the project to be edited to enter the project configuration.

In the setup wizard the individual steps of the project configuration are displayed in the form of a list with buttons. With a click/tap on a button you enter the respective step of the project configuration. Certain buttons or steps of the project configuration can only be selected when the preceding steps of the project configuration have been concluded. When a step of the project configuration has been concluded, this is indicated with a green tick on the button and the next step can be selected. This is how you are guided through the configuration by the setup wizard in the right order.

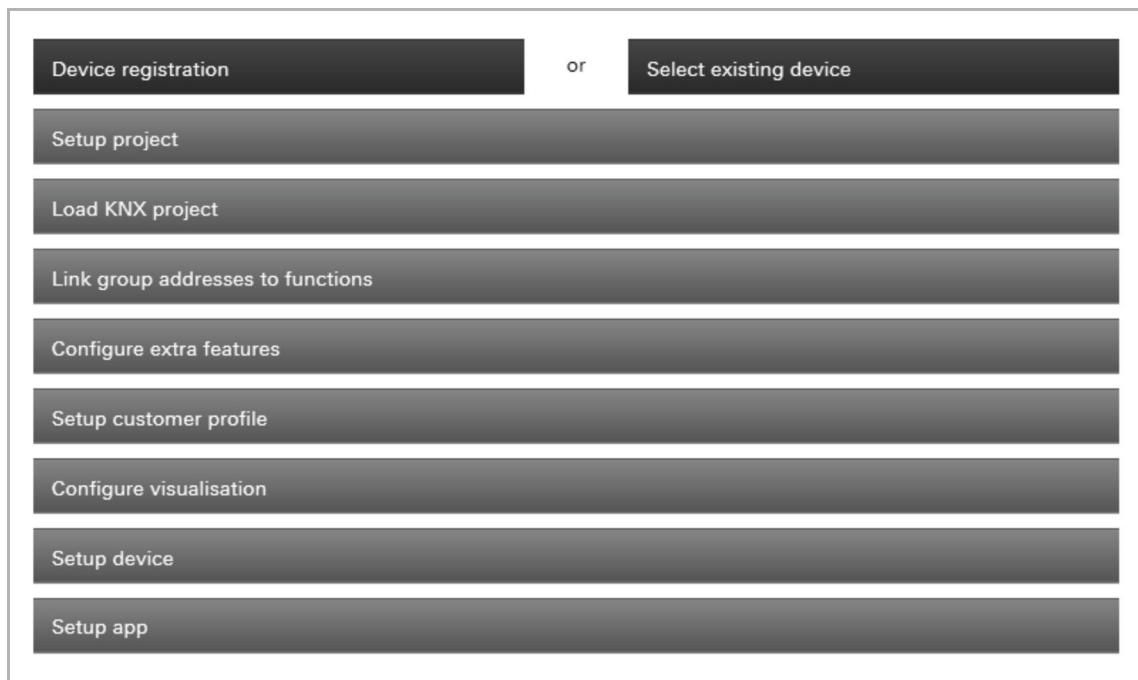


Fig. 20: Project creation:

Each button in the setup wizard links into the configuration options of the extended mode. The available options for selection in the setup wizard are described in the following. At each configuration option a link is made into the chapter with the corresponding description in the extended mode.

The following options for selection are available:

- **Device registration:** Registration of a new Busch-ControlTouch®.
A detailed description is available in Chapter 8.4.2.1 “Registering and setting up the Busch-ControlTouch® via MyBuildings “ on page 36.
- **Select an available device:** Selection of a registered device.
A detailed description is available in Chapter 8.6.2.1 “Opening the configuration page“ on page 45.
- **Setup project:** Creating a new project.
A detailed description is available in Chapter 8.6.2.1 “Opening the configuration page“ on page 45.
- **Load KNX project:** Import of the group addresses from the ETS into the project.
A detailed description is available in Chapter 8.6.3 “Group addresses “ on page 49.
- **Link group addresses with functions:** Specify the function a group address is to be used for.
A detailed description is available in Chapter 8.6.3 “Group addresses “ on page 49.
- **Configure additional functions:** Configuration of additional functions.
A detailed description for configuring the additional functions is available in the following chapters:

- Cameras, see Chapter 8.6.4 “Cameras “ on page 54
- Commands, see Chapter 8.6.5 “Commands “ on page 57
- Data logger, see Chapter 8.6.6 “Data logger “ on page 59
- Trigger, see Chapter 8.6.8 “Triggers “ on page 63
- Sonos KNX link, see Chapter 8.6.10 “Sonos KNX link “ on page 91
- Room temperature controller, see Chapter 8.6.11 “Room temperature controller“ on page 93

Notice: The following functions can be defined and set up directly in the Busch-ControlTouch®.

- Scenes, see Chapter 8.6.9 “Scripts “ on page 66 and Chapter 8.10.3 “Optional creation of scenes “ on page 258.
 - Timer, see Chapter 8.6.9 “Scripts “ on page 66 and Chapter 8.10.4 “Optional setting of time programs (timer) “ on page 260.
 - Presence simulation, see Chapter 8.11.11 “Presence simulation“ on page 289.
- Set up customer profile: Creation of visualizations for smartphones and tablets for operating the building automation system via the Busch-ControlTouch®.
A detailed description is available in the chapters from Chapter 8.7.3 “Create new profile “ on page 180.
 - Configure visualization: Creation of room view pages.
A detailed description is available in Chapter 8.7.11.4 “Room view“ on page 188.
 - Set up device: Performing settings in the Busch-ControlTouch®.
A detailed description is available in Chapter 8.10 “Settings in the device (direct access) “ on page 253.
 - Transmit the configuration to the device:
 - Transmitting the configuration to the Busch-ControlTouch®.
A detailed description is available in chapter Chapter 8.9 “Importing the configuration into the Busch-ControlTouch® “ on page 252.
 - Set up app: Setting up the associated app.
A detailed description is available in Chapter 8.11 “Installation and setting of the app “ on page 273 and Chapter 8.11 “Installation and setting of the app “ on page 273 as well as the following chapters from.

8.6 Creating a project - System configuration

8.6.1 General information

Each project includes components of the building automation system. Each component consists of a combination of type, name and group address, to clearly identify the component.

The **type** (data type) of the component must harmonize with the characteristics of the building automation component for which it is to be used (e.g. switch for "Switch on the light").

The **name** of the component is important for the identification by the end customer. This allows an easy allocation of the component due to its clear designation (e.g. kitchen table lamp). The end customer can independently adjust the names via the visualisation interface (app).

The **group address** of the component is used for the functional allocation:

- The sending group contains the group address to which a telegram is to be sent. A maximum of one sending group address can be used per component.
- The status groups include one or several group addresses to display the status of a component. The sending group address is often also a status group.
- The value includes the value that is to be sent or the value to which the Busch-ControlTouch® (building automation system) is to respond.

The group addresses are used by the different protocols of the building automation, e.g. Hue, etc. Details about these protocols are available in the corresponding chapters of this manual.



Notice

For each component it can be specified whether it is available to the end customer for use in scenes or to the timer (time programs). Normally all actuators (light, blind, etc.) that are triggered by normal switches should also be available for scenes and the timer.

By means of scenes the end customer can trigger a whole sequence of actions, with just one press of the switch, for example. The end customer can compile the scene personally. However, the fitter (expert) must create a basic structure of scenes beforehand to which the Busch-ControlTouch® (building automation system) appropriately responds. For this the Busch-ControlTouch® must receive the special group addresses and values. This means that when a KNX device (e.g. switch) sends a telegram to one of these addresses, for example, the Busch-ControlTouch® will then play this scene.



Notice

Scenes for which the fitter (expert) has specified a group address, cannot be deleted by the end customer.

Scenes can also be changed via the visualisation (app). Here the end customer can also adjust the names of the scenes.

Scenes can be set the current values of the components that they incorporate. To do this, a KNX teach-in telegram is sent for the relevant group address with the value change to the KNX bus.

**Notice**

- A long actuation on a scene element (device/visualization (app)) must be carried out. The scene will therefore not be played, but rather saved.
- uPnP/TCP commands and executed scripts are not updated by this action.
- Only one KNX project can be created and used for each device. However, multiple devices can be logged in. Projects can thus be created in parallel for this.

Scenes can be set to the current values of the components that they incorporate. To do this, a KNX teach-in telegram is sent for the relevant group address with the value change to the KNX bus. The values from the answer telegrams sent by the actuators are saved as new value.

**Notice**

A long actuation on a scene element (device/visualization (app)) must be carried out. The scene will therefore not be played, but rather saved.

8.6.2 Creating a project



NOTE

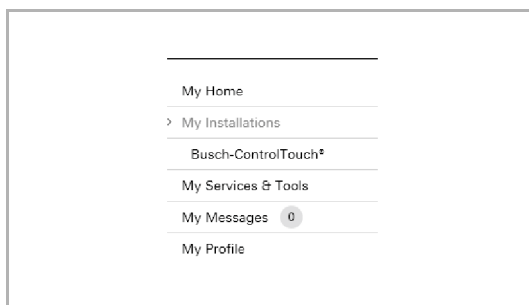
Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings.

Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

8.6.2.1 Opening the configuration page

Open the MyBuildings page and log yourself in.



1. Click on "My installations"
2. Click on "Busch-ControlTouch"

Fig. 21: My installations



Fig. 22: Terminal devices

The available terminal devices are displayed.



3. Click on the icon.

Fig. 23: Icon

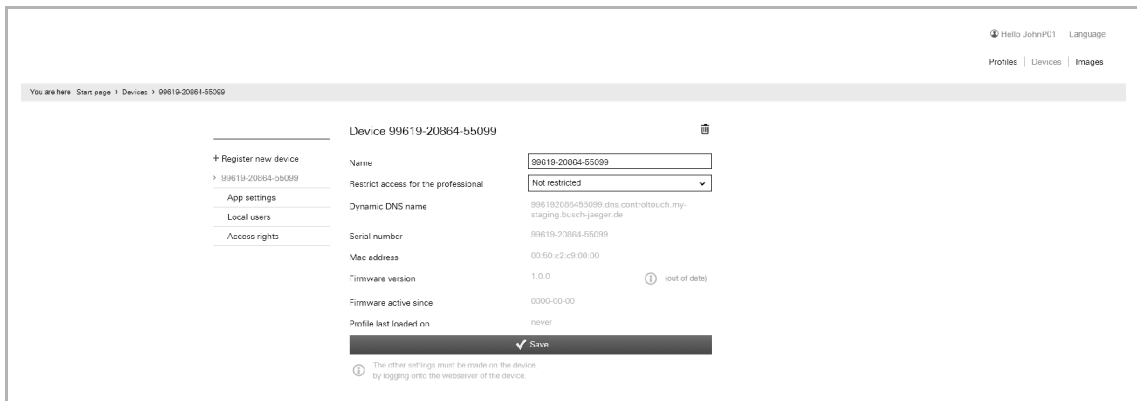


Fig. 24: Configuration page

The configuration page is displayed.



Notice

The user can archive devices and projects by clicking on the archiving function (arrow pointing to archive). This moves the device or project to "Archive" in the menu bar. They will no longer be displayed in the list. Archived devices and projects can still be edited by simply selecting the object under "Archive". The object can then be restored by clicking the archiving function (arrow pointing away from archive).

- The archiving of the device by an expert includes all of the associated projects as well.
- The archiving of the device by an end user includes all of the associated profiles as well.

A project can be created via the configuration page.

1. Select the desired device.
2. Tap on Projects.

The project overview opens.

The screenshot shows the 'Project' configuration page. On the left is a sidebar menu with the following items: '+ Add new project', 'Import project', 'My Home' (selected), 'Group Addresses', 'Cameras', 'Commands', 'Data Logger', 'Presence detection', 'Trigger', 'Scripts', 'Sonos KNX linking', and 'Room thermostat controllers'. The main content area is titled 'Project' and includes several sections:

- Name:** My Home
- Date time settings:**
 - Group address Date (DPT 11.001):
 - Group address Time (DPT 10.001):
 - Group address Sunrise (DPT 10.001):
 - Group address Sunset (DPT 10.001):
 - Send date/time every: never
- Presence simulation settings:**
 - Playback on/off status group:
 - Record on/off status group:
- Metadata:**
 - Number of components: 0
 - Created: 2019-09-19
 - Updated: 2019-10-07 11:06:42
 - Loaded on: 0000-00-00 00:00:00

A 'Change' button is located at the bottom of the configuration area.

Fig. 25: Project overview

3. Tap on "+Add a new project".

A new project is created.



Notice

A standard project [standard project (*device number*)] is automatically created during the registration. This can also be used for editing.

4. Fill in the input fields according to the stipulations.



Notice

The fields for the group addresses need not be filled in. However, if necessary, "only sending" group addresses can be entered.

5. Confirm with "Change".

The specifications about the new project are saved.

6. Now carry out further adjustments for the project. Follow the details in the following sub-chapters.

**Notice**

The user can archive devices and projects by clicking on the archiving function (arrow pointing to archive). This moves the device or project to "Archive" in the menu bar. This will no longer display it in the list. This moves the device or project to "Archive" in the menu bar. This will no longer display it in the list. Archived devices and projects can still be edited by simply selecting the object under "Archive". The object can then be restored by clicking the archiving function (arrow pointing away from archive).

8.6.3 Group addresses



Notice

First the group addresses and building details must be created in the ETS and saved as a project file. This can also be carried out in advance before any KNX devices have been connected to the system.

Group addresses can be imported into the project from the ETS via menu item "Group addresses".



Notice

You can link the imported group addresses with the group objects by pulling a group address onto a group object via drag and drop (cases of application, see chapter 8.7.12 "Listing of profile(page) elements (actions) " on page 192).

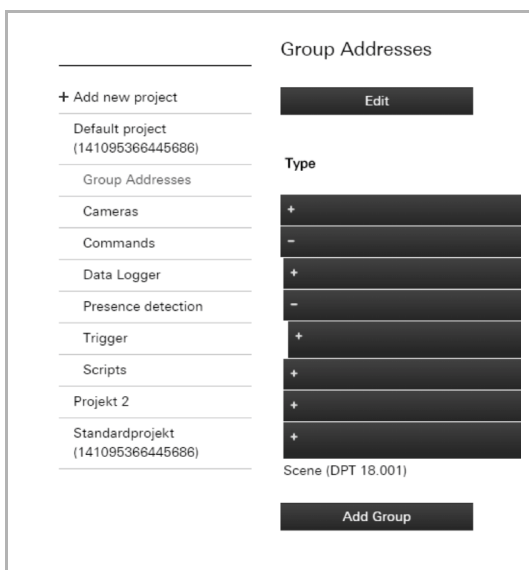


Fig. 26: Editing group addresses

1. Tap on menu item "Group addresses" in the project overview
2. Tap on the "Edit" button

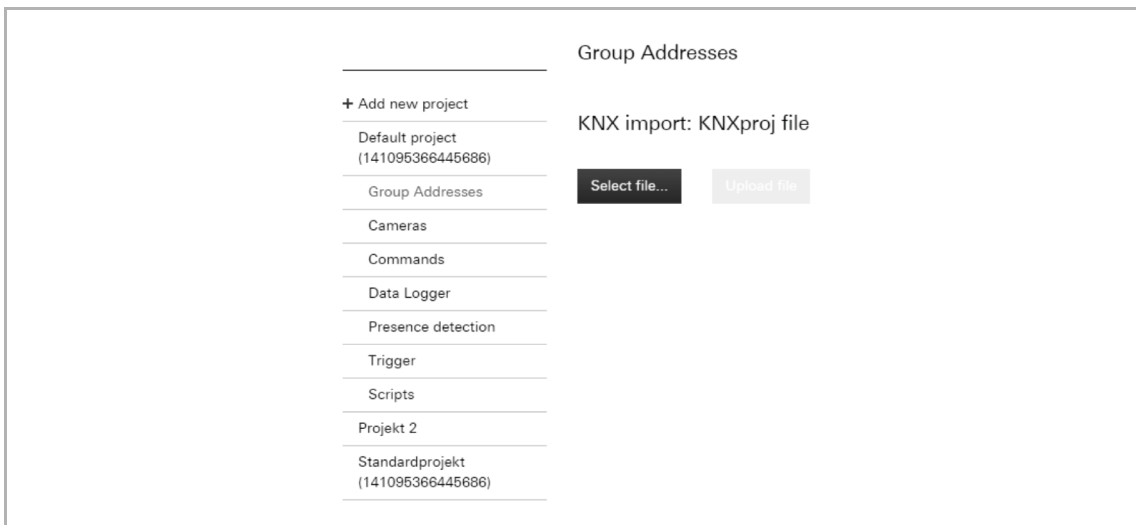


Fig. 27: Import KNXproj file

3. Tap on the "Import KNXproj-file" button.

This allows an ETS project file to be imported into the project.

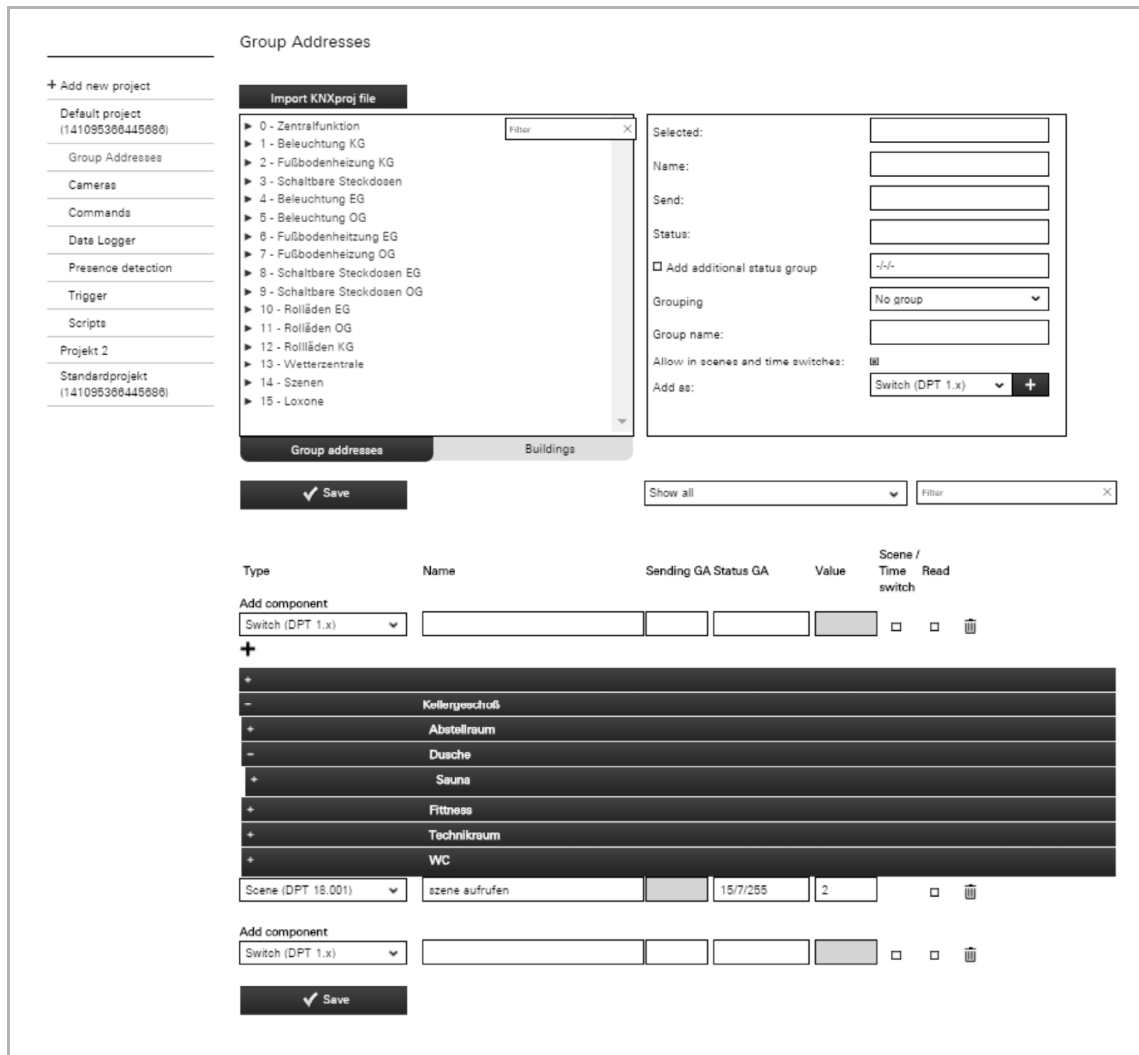


Fig. 28: Group addresses

4. Tap on the "Select file" button.

The desired project file can be selected via the dialogue window. It will then be imported into the project.

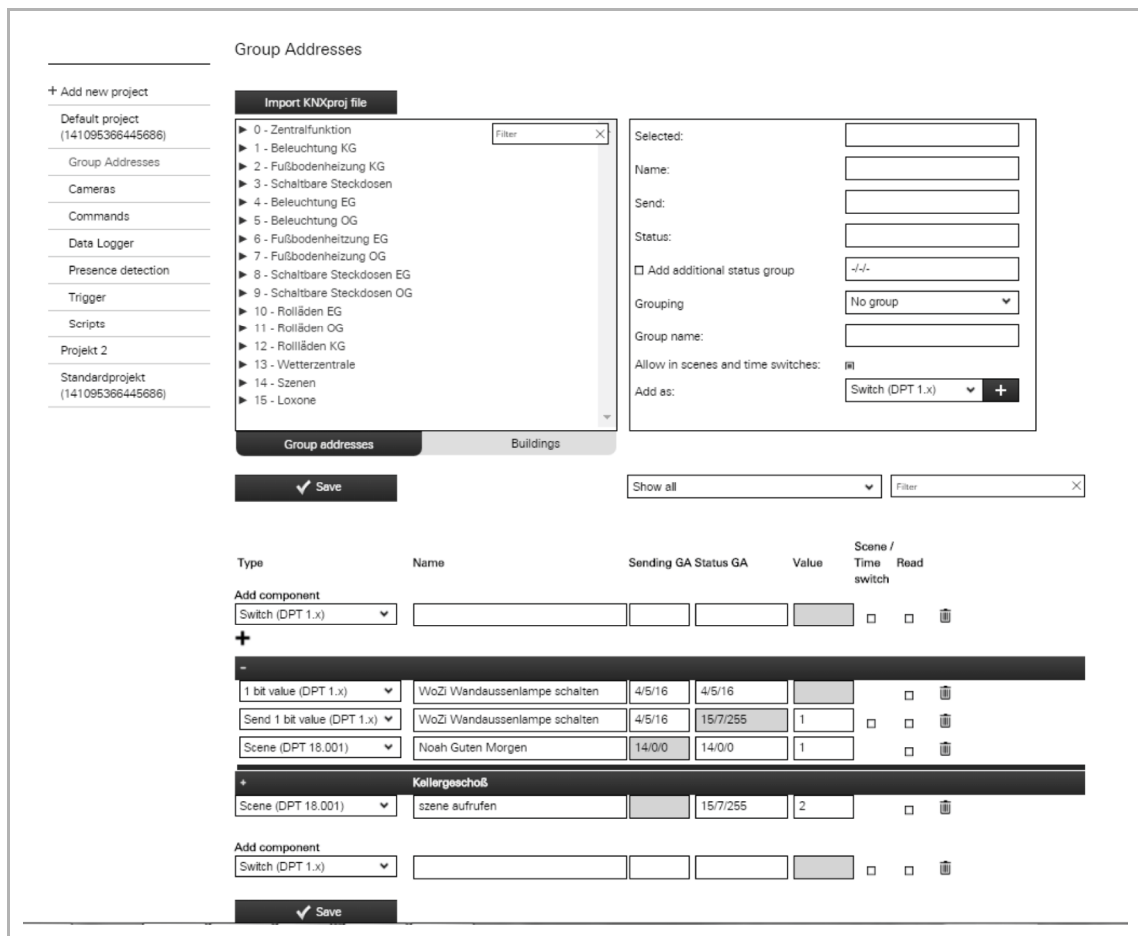


Fig. 29: Example of KNXproj import

5. Now you can define the group addresses you wish to use in the visualisation. Various options are available on how to proceed:
 - a You select a specific group address from the list and specify for what purpose you wish to use the group address (e.g. for a switch or a dimmer). Of course, you can only select functions which match with the data point types in the ETS.
 - b You can also select a complete main group or a middle group and the assign all matching group addresses at once.
 - c Check the building structure and search for your group address.

It is also possible to group the group addresses during the assignment according to:

- Main and middle groups
- Map
- Self-assignment of a name to the group

Switch (DPT 1.x)
Dimmer (DPT 5.001)
Shutter (DPT 1.x)
Scene (DPT 18.001)
RTC mode
Temperature (DPT 9.001)
Light intensity (DPT 9.004)
Wind speed (DPT 9.005)
Atm. Pressure (DPT 9.006)
Humidity (DPT 9.007)
1 bit value (DPT 1.x)
1 byte value (DPT 5.010)
2 byte value (DPT 7.x)
2 byte value (DPT 8.x)
2 byte value (DPT 9.x float)
4 byte value (DPT 12.x)
4 byte value (DPT 13.x)
4 byte value (DPT 14.x float)
RGB(W)
Shift
Text (DPT 16.x)
Send 1 bit value (DPT 1.x)
Send 1 byte value (DPT 5.010)
Send 2 byte value (DPT 7.x)
Send 2 byte value (DPT 8.x)
Send 2 byte value (DPT 9.x float)
Send 4 byte value (DPT 12.x)
Send 4 byte value (DPT 13.x)
Send 4 byte value (DPT 14.x float)
.....

Fig. 30: Functions

Specifications for the group addresses can be made both in the top block (tab "Group addresses") and in the bottom block. No direct adjustments can be made via the "Building" tab (only link to components via "Value sent" and "Value received"). The following adjustments can be made:

- Name of the component
- Sending (group address)
- Status (group address)
 - Add status group
- Grouping
- Group name
- Allow deactivate/activate in scenes and timers
- Deactivate/activate read function
- Type (via options list)
- Copy and add component via "Add as":
- Add component via "+". The type can be specified beforehand via the options list.
- Delete the components using the rubbish bin icon.



Notice

- The adjustments must all be stored using the "Save" button.
 - To make it easier to find certain components, the filter functions can also be used.
 - The components can be added to existing groups. New groups can also be added.
 - Later adjustments can be made at any time.
-
- The order of the list can be changed via drag and drop.
 - The groups can be opened via "+". This allows everything that is part of the group to be seen.
 - A profile can be created automatically using the KNX building structure by selecting the "Auto generate profile" button. The automatic creation also affects pages and controls. However, a KNXproj file must be imported first.

8.6.4 Cameras



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings.

Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Network cameras can be taken over into the group via menu item "Cameras". These can then be available for applications in the app.

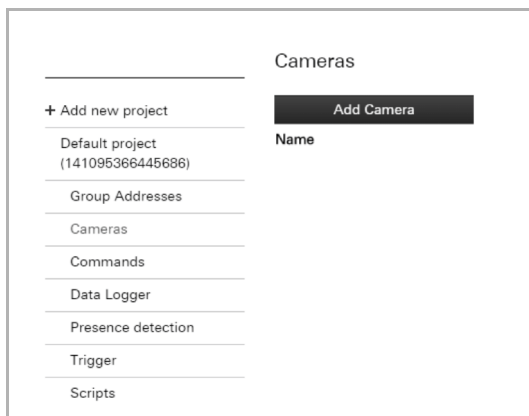


Fig. 31: Add cameras

1. Tap on "Cameras"
2. Tap on "Add camera"

Camera ← | 🗑️

+ Add new project

Default project (141095366445686)

Group Addresses

Cameras

Commands

Data Logger

Presence detection

Trigger

Scripts

Projekt 2

Standardprojekt (141095366445686)

Name

Type ▼

URL

URL external

Width ▼

Height

Interval (s)

Mobile / wifi ▼

Username

Password

Display no warnings for this camera.

Add

For Axis/Vapix or Mobotix camera's the URL should be the base url of the camera including a / at the end.
For other camera's the url should be the full path to the MJpeg stream or image.

Fig. 32: Camera input field

3. Here enter the necessary data into the input fields.

The following listing provides explanations:

- Name: Freely assignable name (e.g. camera at entrance)
- Type: Aside from Axis/Vapix or Mobotix also other types can be specified.
- URL: Depending on the type of camera either the basic URL of the camera (/Axis/Vapix or Mobotix) or the URL of the MJPEG stream/picture (others) must be specified. This allows the camera to be directly controlled.
- URL external: The external URL is important when one is travelling and wants to see the camera pictures via the app. Here the "Port forwarding" is used. The external URL is also entered in the app. The app can then get the data directly.
- Width: Picture format of camera
- Height: Picture format of camera
- Interval (s): Specification in seconds, the interval at which a camera picture is to be sent.
- Mobile/WIFI: This can be used to specify what is to happen during a WIFI connection.
- User name: Some cameras have an access code. Entry of the user name.
- Password: Some cameras have an access code. Entry of the password.
- Camera type: Depending on the camera type, also the camera number (only one camera = no entry) or functions such as zooming can be specified.

4. And finally, confirm with "Add".

The camera is taken up in the list of available cameras.



NOTE

Later adjustments can be made at any time:

- Adjusting data:
Tap in the list on the editing icon next to the camera.
The editing page opens.
And finally, press the "Add" button.
- Deleting:
Tap in the list on the editing icon next to the camera.
The editing page opens.
Click on the rubbish bin icon.

To find cameras easier in the list, also the filter functions can be used.

The cameras can be added to existing groups. Also new groups can be added.

8.6.5 Commands



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Menu item "Commands" can be used to specify commands for IP-bound devices to activate them directly and integrate them into the building automation system.

Fig. 33: >>Commands<<

1. Tap on "Commands".
2. Specify the following for the device:
 - Type (TCP call possible!)
 - Name of device
 - IP address (of device)
 - Port number (of device)



NOTE

This entry must be confirmed with "Save".

3. Tap on the "Save" button.
4. Create a new HTTP command.
5. Then select the command type.
6. Enter also a name for the command type (for later allocation) and the command value (hexadecimal value).
7. And finally, tap on the "Save" button.

The TCP call can now be used for the "Trigger" function.

Various commands for Sonos functions can be activated using the Sonos "Command" function. These commands appear automatically if a corresponding Sonos device (e.g. Sonos loudspeaker) is connected.

The following commands are available:

- Mute the group: Switches the device group to mute.
- Cancel the mute function: Cancels the mute function of a group.
- Group volume: Adjustment of the device volume in the entire group.
- Raise group volume: Raises the group volume.
- Reduce group volume: Reduces the group volume.
- Play: Play command for an audio file.
- Pause: Stops the playing of an audio file.
- Search: Searches for an audio file.
- Next: Changes to the next audio file.
- Previous: Changes to the previous audio file.
- Select replay list: Selecting a replay list.
- Select favourites: Selecting a favourite.
- Select next favourite: Selects the next favourite.
- Shuffle: Plays audio files at shuffle mode.
- Replay all: All audio files are replayed.
- Replay one: One selected audio file is replayed.
- No shuffle: Playing audio files in shuffle mode is not admissible.
- No replay: Replaying audio files is not admissible.
- Superimpose: Audio files are played superimposed.
- No superimposing: Superimposing of audio files is not admissible.
- Select line-in: An MP3 player connected to a Sonos device is selected.
- Joins the next playing group: Adds an audio file to the next group to be played.
- Play audio clip: Plays an audio clip.
- Add a device to my group: Adds a selected device to a group.
- Remove a device from group: Removes a selected device from a group.
- Remove me from the group: Removes a participant from a group.
- Select switch HDMI into television set: Switches the HDMI connection to a television set.
- Set the television on standby: Switches the television set to standby.
- Mute device: Switches a device to mute.
- Cancel the mute function: Cancels the mute function of a device.
- Device volume: Adjustment of the device volume.
- Raise device volume: Raises the volume of the device.
- Lower device volume: Lowers the volume of the device.

These extra functions (commands) can be triggered by a scene, a time program, an action (trigger) or a script.

8.6.6 Data logger



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings.

Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

The data of components can be recorded via menu item "Data logger". This specifies the data points that are to be stored. These can then be graphically displayed via the "Data logger" control element.

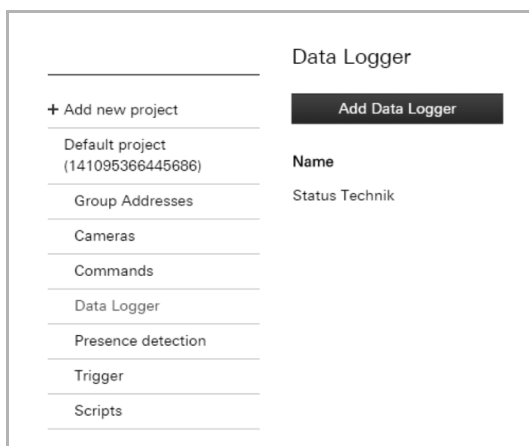


Fig. 34: Add data logger

1. Tap on menu item "Data logger"
2. Tap on the "Add data logger" button.

Data Logger ◀ | 🗑️

Name

Time period Hour Day Week Month Year

Type ▼

Component ▼

Add

Explanation data logger time period:
 When using a day as time period, the statistics will be calculated per 15 minutes: mean value, minimum, maximum or the totals.
 With the other time periods these calculations are done over a longer period:

Time period	Measurement cycle
Hour	30 seconds
Day	15 minutes
Week	1 hour
Month	4 hours
Year	4x per month

Fig. 35: Data logger input field

3. Enter a name here.
4. Specify the time period for logging.

Several can be selected in parallel.

5. Specify the data type:

- Mean value, minimum and maximum: Transmitter sends fluctuating values such as temperature (normal storage of data)
- Totals/differences: (Total is sent) E.g. if a meter sends its reading (total value) → Delta is calculated by the Busch-ControlTouch® (the meter does not have this function!)
- Totals/differences: (Delta is sent) E.g. a meter which sends its reading (Delta is calculated by the meter directly)

6. Select the component (which supplies the data).
7. And finally, tap on the "Add" button.

The data logger is taken up in the list of available data loggers.



NOTE

Later adjustments can be made at any time:

- Adjusting data:
Tap in the list on the editing icon next to the data logger. → The editing page opens. And finally the "Add" button must be pressed.
- Deleting:
Click/tap in the list on the editing icon next to the data logger. → The editing page opens. Tap on the rubbish bin icon.

To find data loggers easier in the list, also the filter functions can be used.

The data loggers can be added to existing groups. Also new groups can be added.

8.6.7 Presence detection



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Menu item "Presence detection" can be used to specify that a trigger is activated as soon as the terminal device enters the network area of the building automation system. This, for example, allows lamps in the corridor to be switched on when someone enters the house.

Fig. 36: Presence detection

1. Tap on menu item "Presence detection".
2. Adjust the specifications accordingly:
 - Name Selection of a corresponding group address (e.g. switching a lamp on). To find group addresses easier in the list, also the filter functions can be used.
 - Night Specification of night time (manual adjustment possible). One does not want to be disturbed during this period and that is why the function should be inactive.
 - Time-out (min) The message is sent during this interval.
3. And finally, tap on the "Save" button.

The presence detection is, among others, taken up in the list of available presence detectors for the alarms or triggers.



NOTE

Later adjustments can be made at any time:

- **Adjusting data:**
Adjust the data by either selecting a different group address or adjusting the time specifications. And finally the "Save" button must be pressed.
- **Deleting:**
Delete the entry for the group addresses under "Name". And finally the "Save" button must be pressed.

To find group addresses easier in the list, also the filter functions can be used.

8.6.8 Triggers



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Menu item "Trigger" is used to specify conditions which can trigger an event / a function. When a condition has been met, then an event that has been specified for it is triggered (e.g. switching of a lamp (group address) or the playing of a scene).

Up to 5 conditions and up to 5 actions can be set up per trigger. Additional triggers can be added using the "Add triggers" button.



Fig. 37: Add triggers

1. Tap on menu item "Trigger"
2. Tap on the "Add trigger" button.

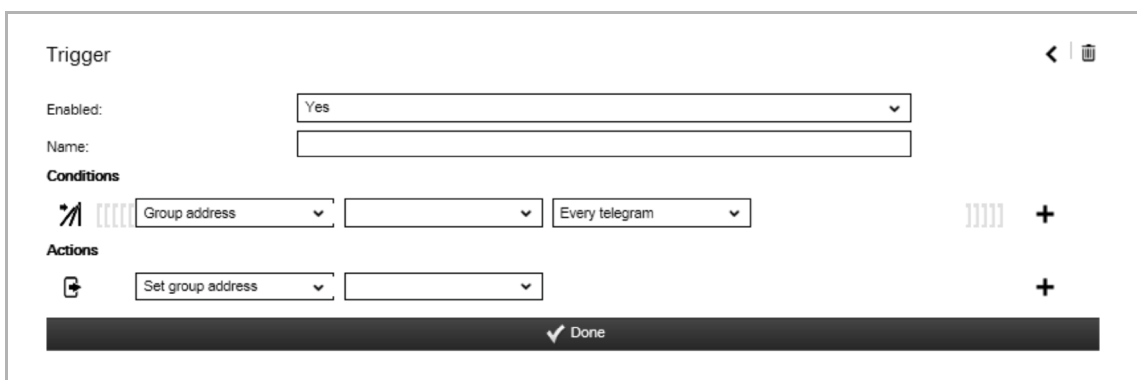


Fig. 38: Trigger input field

Each trigger function can be activated and deactivated.

This function can also be executed in the overview list by clicking the name.

3. Enter a name.
4. Specify with "Condition" which one is to trigger a triggering function.



Conditions based on a group address can either be a triggering condition or a condition which is validated when triggering another condition. The type of condition can be modified by clicking the icon to the left of each condition.



Notice

Conditions such as the HTTP trigger are always triggering conditions.

When using more than one condition, AND or OR can be used to compare the different conditions in the validation. Click AND/OR in order to switch between the two options.

You can use parentheses either side of the conditions for more complex functions by clicking to the left or right of a condition. You can then remove parentheses by right-clicking on them. The number of relative parentheses is validated.

Actions are always executed in the order in which they were added. A "WAIT" action can therefore be used to pause between the execution of an action.

In order to make the trigger available on the device, the project must be loaded to the device. The triggers are displayed on the device in the "Alarm messages" page. Here you can deactivate and activate triggers. In addition, a simulation can be performed in order to verify the actions being executed.

If the "Actions" option was activated in the user logs, the log file shows the validation of the triggers and whether the corresponding actions have been executed correctly.

The following conditions can be selected (depending on the type of condition, additional settings are possible to further vary the condition):

- Group address (specifying a group address which triggers an event/function)
 - HTTP trigger
 - Protocol connected/disconnected (connection or disconnection with KNX protocol)
 - Trigger of presence detection (trigger for message when terminal device is again in the home network)
5. Use "Actions" to specify which event/function is to be triggered when the condition has been met.

The following trigger functions can be selected (depending on the type of trigger, additional settings are possible to further vary the trigger function):

- Group address (specifying a group address, which is triggered)
 - Call-up of scene
 - Script (call-up of a specified script. This must be created beforehand)
 - Command (call-up of a specified command. This must be created beforehand)
 - Network command
 - Sonos command
 - TCP command
 - uPnP command
 - Snapshot
 - Presence simulation
 - Waiting
6. And finally, tap on the "Ready" button.

The trigger function is taken up in the list of available trigger functions.



Notice

Later adjustments can be made at any time:

- Adjusting data:
Tap in the list on the editing icon next to the trigger function. → The editing page opens. And finally the "Ready" button must be pressed.
- Deleting:
Tap in the list on the editing icon next to the trigger function. → The editing page opens. Tap on the rubbish bin icon.

To find trigger functions easier in the list, the filter functions can also be used.

The trigger functions can be added to existing groups. New groups can also be added.

8.6.9 Scripts



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings.

Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Menu item "Scripts" can be used to write one's own small programs (scripts) which can be used in the Busch-ControlTouch®. These scripts are very flexible and can be used to add numerous additional functions to a building automation system. Logic functions, delay actions (triggers), scenes with RGB sequences and much more can be created. Scripts can be triggered by a scene, a time program, an action (trigger) or another script.



Fig. 39: Add scripts

1. Tap on menu item "Scripts".
2. Tap on the "Add script" or "Add LUA script" button.



Fig. 40: Scripts input field

3. Each script can be activated and deactivated.

**Notice**

A deactivated script cannot be used. It can, however, be created and used according to requirement. It can also be activated via the overview list (click on name). This applies both to the lists on the configuration page and to the direct access page of the device.

4. Enter a name.
5. Specify what is to take place after booting (e.g. start the script).
6. Specify whether the script is to be available for scenes and time programs.
7. Now program the script.

**Notice**

It is recommended that first the "Save and check" button is actuated. This additionally causes a logic test of the entered script to be carried out. Faulty specifications will be displayed.

8. And finally, press the "Save and close" button.
- The script is taken up in the list of available scripts.

**Notice**

Later adjustments can be made at any time:

- **Adjusting data:**
Click/tap in the list on the editing icon next to the script. → The script editor opens. And finally the "Save and close" button must be pressed.
- **Deleting:**
Tap in the list on the editing icon next to the script. → The script editor opens. Tap on the rubbish bin icon.

To find scripts easier in the list, also the filter functions can be used.

The scripts can be added to existing groups. Also new groups can be added.

8.6.9.1 Creation of scripts

Script editor



Notice

Example scripts can be found at <http://busch-jaeger-catalogue.com>

When you add or edit a script, you can select whether it should be enabled and you can select whether the script should be available for the end user, to use in scenarios or the scheduler. You can also select if the script should be started automatically, whenever the xxter device is (re) started. You can also select if the script should be started automatically, whenever the device is restarted.

IMPORTANT: Disabled scripts cannot be executed and will not be triggered when included in a scenario, action or scheduler. This can be useful for testing and troubleshooting proposes. However, keep in mind that a script can be enabled or disabled by another script.

41: Script editor

The line numbers that are displayed next to the script are informational only and are not used in the scripts themselves. Commands can be added by typing them in directly or by using the command selection tool, located at the top right-hand corner. Make sure you are at the right position in the script editor when adding a command with the commands tool. When adding a command with the commands tool, the appropriate fields regarding your configuration will be added as links automatically. This allows a quick and easy way to add correct commands using the editor.

After you have added one or more commands in the editor, you can verify if they are valid by clicking the "Save and check" button. Your current script will be checked and redisplayed in the editor. All lines that are correct will be displayed in black. All lines in red indicate it contains an error somewhere on that line. Comments will always be displayed in green.

```
1 # Delayed turn everything off
2 WAIT 5000
3 SET BIT(601/EVERYTHING OFF) TO [0-1]
```

After correcting or adding lines, you can easily verify the script again by using the "Save and check" button. When everything is correct you can use the "Save and close" button to close the editor.



Notice

Scripts that contain errors can be saved and started. However, the lines that contain errors (and are displayed in red) will not be executed during the execution of the script. The program will skip them and continue with the next line.

```
1 #Example script
2 #The following line sets a dimmer to 100%
3 SET BYTE(542/Example light) TO 100
4 #No need to add a STOP command at the end of a script.|
5
```

Scripts will automatically stop running after the last command of the script has been executed.

When using the command selection tool, parts of the command will be displayed between [] brackets. These parts need to be replaced by valid input. The default text shown in between these brackets will give you an indication of the required value.

Scripts are written using commands and values. Additionally, scripts can be extended to include variables, calculations, functions and certain control structures like IF statements and WHILE loops.

Commands

The commands section is divided in the different main types of commands that are available.

Controlling components

SET [component] TO [value]

With this command you can set bit, byte and float (2byte) components to a specified value. Use the "." character as separator for floating point values. You can also use other components as the value part of this command. This allows you to set one component to the value of another.

SET [RGB component] TO [red],[green],[blue]

This command lets you set a RGB component to a specified colour. The colour must be described with the red, green and blue values, all using a range of 0–255. Instead of using static values, you can replace any of the three primary colour parts with a BYTE component. You can also replace all the component parts together with a single other RGB component. This allows you to set an RGB component to another RGB component's colour.

FADE [component] TO [value] IN [time]

This command is quite similar to the two commands above; you can use it on bytes, floats and RGB values. Instead of setting the value directly, this command changes the values in steps from the current value to the value specified. You can specify the time as a static value or use the value of a component. Possible time units are MSEC/SEC/MIN/HOUR/DAY. If no units are specified for the time value, milliseconds are assumed. This command changes the value of the component every second. Similar to the SET command, you can also use this command in combination with RGB components.

FADE [component] TO [value] in [time] STEP [time]

This command is similar to the command above; it just adds the specification of the step time. When the step time is not specified, the FADE command changes the value every second. By specifying the step time, you can change this to every 30 minutes, or 100 milliseconds, for example. The minimum value is 100 milliseconds. Similar to the SET command, you can also use this command in combination with RGB components.

READ [component]

With this command you can request the current status of the component on the bus. You can also use the command for scenarios. This will perform a READ for every component that is included in the scenario.

Controlling (other) scripts**STOP**

This command simply stops the current script.

RESTART

This command restarts the current script. In other words, it starts running again from the beginning.

IMPORTANT: restarting a script without using a WAIT command (see next section) will bring the script in a direct infinite loop, which should be avoided.

START [script]

This will start another script if it is not running at the moment. Replace [script] with the actual script you wish to start.

START AT BEGIN [script]

This will start another script if it is not running. If it is running it will tell the script to start over again from the beginning (restart). Replace [script] with the actual script you wish to (re)start.

STOP [script]

This will stop another script if it is running. Replace [script] with the actual script you wish to stop.

SET [script] TO [on/off]

This command allows you to enable or disable a script. Replace [script] with the actual script you wish to enable/disable. All values greater than 0 are interpreted as ON, all values of 0 or below are interpreted as OFF. This can be helpful when using a certain component to activate/deactivate scripts.

Disabling a script that is currently running will also directly stop the script.

Using delays**WAIT [time] or WAIT [time] MSEC/SEC/MIN/HOUR/DAY**

This command will put the script on hold for the given period of time. If no time units are supplied, milliseconds are assumed. The maximum waiting time is approximately 20 days. Instead of entering a static value, you can use a value from a component as well. (BYTE or 2BYTE)

```

1 #Example script
2 #The following line waits for the value of the BYTE in minutes.
3 WAIT BYTE(542/Wait time) MIN
4

```

WAIT [time] RANDOM [time]

This command is similar to the previous command, however, this command waits for the given time with an addition of a random generated time in the interval given as the second time range. For example: WAIT 1 HOUR RANDOM 30 MIN will wait somewhere between 1 hour and 1.5 hours. Every time the command is executed, this will be recalculated with a different result.

Scenarios, alerts and schedulers

Existing scenarios, alerts and schedulers can be used in scripts, with the following commands:

CALL [scenario]

This will call the specified scenario. Replace [scenario] with the actual scenario you wish to call.

LEARN [scenario]

This will modify the scenario. All components in the scenario will be set to their current state in the home automation installation.

CALL [alert] or CALL [alert] WITH [value]

This allows you to use the alert service from within scripts. If no value is specified, 0 is used. Replace [alert] with the actual alert you wish to call.

SET [scheduler] TO [on/off]

This command allows you to enable or disable a scheduler. Replace [scheduler] with the actual scheduler you wish to activate or deactivate. All values greater than 0 are interpreted as ON, all values of 0 or below are interpreted as OFF. Keep in mind that this will only work on schedulers that can be manually enabled or disabled. Schedulers that are automatically enabled or disabled based on a component cannot be enabled or disabled by a script.

Commands

EXECUTE [network command]

This allows you to use a network command from within scripts. Replace [network command] with the actual command you wish to use.

EXECUTE [ir command]

This allows you to use an infrared command from within scripts. Replace [ir command] with the actual command you wish to use.

EXECUTE ON [upnp device] [upnp command]

This allows you to use a command on a uPnP device from within scripts. Replace [upnp device] with the desired uPnP device and [upnp command] with the actual command you wish to use.

EXECUTE ON [diva] [diva macro]

This allows you to use a command on a diva device from within scripts. Replace [diva] with the desired diva server and [diva macro] with the diva macro you wish to use.

Values

When you insert a command through the script command list, values and components are displayed in [] brackets. These are displayed to indicate what you should enter at the appropriate location. When possible the editor will make a link to the right listing of components, scripts, alerts, schedulers or scenarios. The right value can then be selected.

Valid components are written as SCENARIO(123/name), for example. In this example a scenario is intended with the identifier "123". The name is displayed for readability only. You do not have to enter the correct name, because the correct name will be automatically inserted after the script is validated.

For many commands you will normally use a static value, for example WAIT 20 SEC. However, in some circumstances it might be useful to use the value of a component instead. With all commands you can replace the static value with a component.

Time values are assumed in milliseconds if no time unit is specified. Valid units are: MSEC, SEC, MIN, HOUR and DAY.

Variables and calculation

The basic commands and values can be extended further with the use of variables and calculations.

Variables

You can define your own variables in scripts, which are defined as global variables, useable across all different scripts on the device. A variable starts with a dollar sign „\$”, for example: \$AVERAGE The name of the variable can consist of alphanumeric characters (A–Z and 0–9).

You can use variables to store any value, for example:

```
$LIGHTPERCENTAGE =0
```

```
SET BYTE(21/Spots) TO $LIGHTPERCENTAGE
```

Or

```
$LIGHTSPOTS = BYTE(21/Spots)
```

```
SET BYTE(24/Spots Kitchen) TO $LIGHTSPOTS
```

Calculation

You can use variables to calculate values using arithmetic operators. Calculations are written in the following manner:

```
$MAXLIGHT = ( 2 * 10 ) + 10
```

Of course you can use values of components as well, for example:

```
$MAXLIGHT = ( 2 * BYTE(21/Spots) ) + 10
```

IMPORTANT: when using calculations you should always make use of brackets. When no brackets are used, the calculation is processed in the order it is written! For example, $2 * 10 + 10 = 30$ but $10 + 2 * 10 = 120$. You can prevent this by writing: $10 + (2 * 10)$. Always keep this in mind when using calculations.

Floating point values can be used by using the "." as a separator, for instance 2.42

Note that all variables are ABB-wide. So if you set a specific variable in one script another script can use that value as well. If you want to use a specific variable only in one script, make sure other scripts do not use the same variable name.

The following operators can be used:

+	plus	
-	minus	
*	multiply	
/	divide	
%	modulo (division remainder)	
^	power	
&	and	(result = 1 if both values greater than 0, 0 if not)
	or	(result = 1 if one of the values is greater than 0, 0 if not)
=	is equal to	(result = 1 if true, 0 if not)
<	is smaller than	(result = 1 if true, 0 if not)
>	is greater than	(result = 1 if true, 0 if not)
<>	is not equal to	(result = 1 if true, 0 if not)

A square root can be made with the power operator: $^ (1/2)$ = to the power of $1/2$ = the square root of the value.

Functions

There are several functions available in scripts to calculate values. These functions can be used in combination with commands or with variables.

Mathematical

ROUND (value) or ROUND (value, precision)

Returns the rounded value of the given value. When no precision is specified, a precision of 0 is used. For example $ROUND(4,3) = 4$ and $ROUND(4,321, 1) = 4,3$

FLOOR (value) or FLOOR (value, precision)

Returns the floored (rounded down) value of the given value. When no precision is specified, a precision of 0 is used. For example $FLOOR(4,7) = 4$ and $FLOOR(4,987, 1) = 4,9$

CEIL (value) or CEIL (value, precision)

Return the ceiled (rounded up) value of the given value. When no precision is specified, a precision of 0 is used. For example $CEIL(4,3) = 5$ and $CEIL(4,321, 1) = 4,4$

ABS (value)

Returns the absolute value of the given value, so $ABS(--4) = 4$ and $ABS(6,13) = 6,13$.

MIN (value, value, value, ..)

Returns the minimum value of all the parameters given. Requires a minimum of one parameter.

MAX (value, value, value, ..)

Returns the maximum value of all the parameters given. Requires a minimum of one parameter.

AVG (value, value, value, ..)

Returns the average value of all the parameters given. Requires a minimum of one parameter.

RANDOM (max value)

Returns a random value between 0 and the given maximum value.

Time functions*NOW()*

Returns the current time as a timestamp in seconds since January 1st, 1970 (Unix date). This timestamp can be compared to an earlier value to determine how much time has passed.

DAYTIME() of *DAYTIME(timestamp)*

Returns a 1 if the sun is up and a 0 if the sun is down. When a timestamp is given, this time is used, otherwise the current time is used.

SECOND() of *SECOND(timestamp)*

Returns the number of seconds (0–59). When a timestamp is given, this time is used, otherwise the current time is used.

MINUTE() of *MINUTE(timestamp)*

Returns the number of minutes (0–59). When a timestamp is given, this time is used, otherwise the current time is used.

HOUR() of *HOUR(timestamp)*

Returns the number of hours (0–23). When a timestamp is given, this time is used, otherwise the current time is used.

DAYOFWEEK() of *DAYOFWEEK(timestamp)*

Returns the day of the week (1–7). When a timestamp is given, this time is used, otherwise the current time is used. 1 = Sunday, 2 = Monday, .. 7 = Saturday.

DAYOFMONTH() of *DAYOFMONTH(timestamp)*

Returns the day of the month (1–31). When a timestamp is given, this time is used, otherwise the current time is used.

DAYOFYEAR() of *DAYOFYEAR(timestamp)*

Returns the day of the year (1–366). When a timestamp is given, this time is used, otherwise the current time is used.

MONTH() of *MONTH(timestamp)*

Returns the month (1–12). When a timestamp is given, this time is used, otherwise the current time is used.

YEAR() of *YEAR(timestamp)*

Returns the year, for example "2015". When a timestamp is given, this time is used, otherwise the current time is used.

Text functions

CONCAT("abc", "def",)

Strings of text can be concatenated.

For example: `CONCAT("abc", "def", "ghi")` returns "abcdefghi"

FORMAT(format, parameters....)

This function can be used to format the text. The "format" here describes how this is achieved. The following parameters specify the text for which the operation will be performed. Normal text is then displayed in accordance with the format specified. For this purpose, the following format options can be used:

- Use of "%s" in order to insert a different string into the current one.
For example, `FORMAT("Now it is %s.", "dry")` returns "Now it is dry."
- Use of "%d" to insert an integer into the string.
For example, `FORMAT("The temperature is now %d degrees.", 10)` returns "The temperature is now 10 degrees."
- Usage of "%f" in order to insert a floating-point value into the string.
For example, `FORMAT("The temperature is now %f degrees." 10.12345)` returns "The temperature is now 10.12345 degrees."
- Use of "%f" to insert a decimal number into the string. By inserting "%xf" you can specify with "x" how many decimal places should be shown.
For example, `FORMAT("The temperature is now %.2f" degrees.", 10.12345)` returns "The temperature is now 10.12 degrees".
- Use of "%%" in order to display a percentage symbol.
For example, `FORMAT("The living room window is now %d%% closed.", 10)` returns "The living room window is now 10% closed."

SUBSTR(text, startindex) und SUBSTR(text, startindex, length)

This function can be used to specify that only parts of a string are to be shown. The start index (startindex) starts at 0. If no length parameter (length) is specified, then the part of the string after the start index is the new string end.

Example: `SUBSTR("abcdef", 3)` returns "def".

Example: `SUBSTR("abcdef", 3, 1)` returns "d".

STRLEN(text)

This function returns the length of the specified string.

Example: `STRLEN("abcdef")` returns 6.

Textoperator „."

This operator can be used to concatenate strings.

Example: "abc"."def"."ghi" returns "abcdefghi".

**Notice**

The string functions can be used as text (DPT 16.x) for group addresses and variables.

Control structures

IF and WHILE

You can use IF statements and WHILE loops to execute specific actions only if a condition is met. The condition can be defined using all arithmetic operators as explained above.

For example:

```
IF $LIGHT > 33.33  
  $LIGHT = 33.33
```

The action that is written on the second line is only executed when the calculation behind the IF statement is TRUE (greater than 0). The action will be skipped if the result is FALSE (0 or below).

If you use an IF statement, you can also add an ELSE statement, like this:

```
IF $LIGHT > 33.33  
  $X = 100  
ELSE  
  $X = 0
```

The ELSE statement should always be on a separate line, directly below the command to execute when the condition of the IF statement is met.

Apart from the IF statement, a WHILE statement can also be used. The difference between an IF statement and a WHILE statement is that an IF statement is performed once and a WHILE statement will be repeated until the condition is no longer met, for example:

```
$COUNT = 0  
WHILE $COUNT < 10  
  $COUNT = $COUNT+1
```

The example above will increase the variable COUNT until it is 10 or greater. For instructions on how to execute multiple commands, see the next section.

IMPORTANT: when the condition is never ending, the WHILE loop will continue indefinitely. Allowing this without using a WAIT command will bring the script in a direct infinite loop, which should be avoided.

BEGIN and END

If you need to execute more than one command after a IF, WHILE or ELSE statement, you can use BEGIN and END statements.

These should be written on separate lines as well, for example:

```
$X = 0
WHILE $X < 11
  BEGIN
    $Y = $X * 10
    SET BYTE(22/EXAMPLE BYTE) TO $Y
    $X = $X + 1
  END
```

Another example:

```
IF $LIGHT > 33.33
  BEGIN
    $X = 100
    $Y = 0
  END
ELSE
  BEGIN
    $X = 0
    $Y = 100
  END
```

Other

SEND WAKEONLAN TO [ma:c :ad:re:ss]

With this command you can send a wake on lan command to a network device. Replace [ma:c :ad:re:ss] with the MAC address of the intended device.

OPEN KNXTUNNEL

With this command you can enable the KNX tunnel access on the device for programming with ETS for a period of 8 hours.

CLOSE KNXTUNNEL

With this command you can disable the KNX tunnel access on the device for programming with ETS.

Using all described commands, values, functions and control structures will allow you to create almost any functionality required.

8.6.9.2 Creation of LUA scripts

LUA scripts are programs that are composed of one or several lines.



Notice

General information on LUA is available in the LUA manual:

- <https://www.lua.org/docs.html>

When you add or edit a script, you can select whether it should be enabled and you can select whether the script should be available for the end user, to use in scenarios or the scheduler. You can also select if the script should be started automatically, whenever the xxter device is (re) started. You can also select if the script should be started automatically, whenever the device is restarted.

IMPORTANT: Disabled scripts cannot be executed and will not be triggered when included in a scenario, action or scheduler. This can be useful for testing and troubleshooting purposes. However, keep in mind that a script can be enabled or disabled by another script.

Fig. 42: LUA script editor

The line numbers that are displayed next to the script are informational only and are not used in the scripts themselves. Commands can be added by typing them in directly or by using the command selection tool, located at the top right-hand corner. Make sure you are at the right position in the script editor when adding a command with the commands tool. When adding a command with the commands tool, the appropriate fields regarding your configuration will be added as links automatically. This allows a quick and easy way to add correct commands using the editor.

After you have added one or more commands in the editor, you can verify if they are valid by clicking the "Save and check" button. Your current script will be checked and redisplayed in the editor. All lines that are correct will be displayed in black. All lines in red indicate it contains an error somewhere on that line. Comments will always be displayed in green.

```
1 # Delayed turn everything off
2 WAIT 5000
3 SET BIT(601/EVERYTHING OFF) TO [0-1]
```

After correcting or adding lines, you can easily verify the script again by using the "Save and check" button. When everything is correct you can use the "Save and close" button to close the editor.



Notice

Scripts that contain errors can be saved and started. However, the lines that contain errors (and are displayed in red) will not be executed during the execution of the script. The program will skip them and continue with the next line.

```
1 #Example script
2 #The following line sets a dimmer to 100%
3 SET BYTE(542/Example light) TO 100
4 #No need to add a STOP command at the end of a script.|
5
```

Scripts will automatically stop running after the last command of the script has been executed.

When using the command selection tool, parts of the command will be displayed between [] brackets. These parts need to be replaced by valid input. The default text shown in between these brackets will give you an indication of the required value.

Scripts are written using commands and values. Additionally, scripts can be extended to include variables, calculations, functions and certain control structures like IF statements and WHILE loops.

LUA functions

The LUA functions section describes the available LUA functions.

ct.userlog (text)

Executes write processes in the user log and is useful for debugging scripts. These write processes in the user log are also executed when the script has been deactivated beforehand.

Parameters:	text:	String with text that is to be written into the user log.
Example:	ct.userlog ("Running script part X")	

ct.startscript (script_id)

Starts a script if it is not already being executed.

Parameters:	script_id:	Identifier of the script (number)
Example:	ct.startscript (35)	

ct.stopscript (script_id)

Stops a script

Parameters:	script_id:	Identifier of the script (number)
Example:	ct.stopscript (35)	

ct.enablescript (script_id, status)

Activates or deactivates a script so that it can (cannot) be started.

Parameters:	script_id:	Identifier of the script (number)
Status:	Desired script status (enum: 0 = Off, 1 = On)	
Example:	ct.enablescript (35,1)	

ct.sleep (time)

The scripts for the specified time period (in milliseconds), before it continues.

Parameters:	time:	Waiting period in milliseconds
Example:	ct.sleep (5000)	

ct.callscenario (scenario_id)

Calls up a scenario to execute the actions configured in it.

Parameters:	scenario_id:	Identifier of the scenario (number)
Example:	ct.callscenario (17)	

ct.learnscenario (scenario_id)

Updates the configured actions of the specified scenarios to the current values.

Parameters:	scenario_id:	Identifier of the scenario (number)
Example:	ct.learnscenario (17)	

ct.callalert (alert_ID[, text [, camera_id]])

Calls up the specified alarm (optional with specific text and snapshots of the allocated camera). The optional text, if available, is located at position "[x]" of the notification service.

Parameters:	alert_id:	Identifier of the alarm (number)
	text:	<i>Optional</i> , text to be sent with the alarm (String)
	camera_id:	<i>Optional</i> , Identifier of the IP camera that takes the snapshot (number)
Example:	ct.callalert (65) ct.callalert (65, "Scripted alert") ct.callalert (65, "Scripted alert", 103)	

ct.makesnapshot (camera_id)

The allocated IP camera takes a snapshot.

Parameters:	camera_id:	Identifier of the IP camera that takes the snapshot (number)
Example:	ct.makesnapshot (103)	

ct.enablescheduler (scedule_id, status)

Activates or deactivates a timer so that it can (cannot) be started.

Parameters:	scedule_id:	Identifier of the timer (number)
	status:	Desired status of the timer (enum. 0 = Off, 1 = On)
Example:	ct.enablesceduler (18,1)	

ct.setcomponent (component_id; value [, value_2, value_3])

Sets a component on the specified value.

Parameters:	component_id:	Identifier of the component (number)
	value:	Desired value for the component (type depends on the component). If the component is a RGN component, the value relates to R (number)
	value_2:	<i>Only for RGB</i> , relates to G (number)
	value_3:	<i>Only for RGB</i> , relates to B (number)
Example:	ct.setcomponent (38, 75) ct.setcomponent (45, 75, 230, 176)	

ct.getcomponent (component_id)

Determines the current value of the component.

Parameters:	component_id:	Identifier of the component (number)
Feedback signal:	value:	Current value of the component (type depends on the component). RGB components signal three values.
Example:	var = ct.getcomponent (38) varR, varG, varB = ct.getcomponent (45)	

ct.readcomponent (component_id)

Executes a read command on the KNX bus of the component. When the KNX component responds to the request, the current script status is updated (this can take a while). Then the current value in script ct.getcomponent can be used.

Parameters:	component_id:	Identifier of the component (number)
Example:	ct.readcomponent (38)	

ct.httpcommand (http_id)

Executes the specified HTTP command.

Parameters:	http_id:	Identifier of the HTTP command (number)
Example:	ct.httpcommand (12)	

ct.tcpcommand (tcp_id)

Executes the specified TCP command.

Parameters:	tcp_id:	Identifier of the TCP command (number)
Example:	ct.tcpcommand (17)	

ct.ircommand (ir_id)

Executes the specified infrared command.

Parameters:	ir_id:	Identifier of the IR command (number)
Example:	ct.ircommand (7)	

ct.openKNXtunnel (status)

Opens or closes the KNX tunnel.

Parameters:	status:	Command with which the tunnel is opened or closed (enum: 0 = closed, 1 = open)
Example:	ct.openKNXtunnel (1)	

ct.setstimulation (status)

Sets the presence simulation on the desired status.

Parameters:	status:	Desired status of presence simulation (enum: 0 = stop, 1 = record, 2 = play)
Example:	ct.setsimulation (2)	

ct.getsimulation ()

Determines the current status of presence simulation.

Feedback signal:	Current status of presence simulation (enum: 0 = stop, 1 = record, 2 = play)	
Example:	ct.getsimulation ()	

ct.connectKNX (status)

Connects or disconnects the KNX connection of the device.

Parameters:	status:	Command for the KNX connection (enum; 0 = disconnect, 1 = connect)
Example:	ct.connectKNX (1)	

ct.setpersistent (varname, value)

Creates or updates a variable that is persistent across all scripts to transmit information between scripts.

Parameters:	varname:	Name of the persistent variable (string, alphanumeric: 0-9a-zA-Z)
	value:	The value the persistent variable should have (type is dependent on the variable)
Example:	ct.setpersistent ("maxValue", 21.23) ct.setpersistent ("message", "Valve error")	

ct.getpersistent (varname)

Calls up a variable that is persistent across all scripts to transmit information between scripts.

Parameters:	varname:	Name of the persistent variable (string, alphanumeric: 0-9a-zA-Z)
Example:	ct.getpersistent ("maxValue")	

ct.setsonos (device_id, command [, option_setting])

Executes a Sonos command.

Parameters:	device_id:	Cab be set on "global" for global commands or for availability of specific identifier for Sonos device (format: RINCON_949F3EC192E401400).
	command:	<p>If the device ID is set on global, the following commands can be used:</p> <p>"creategroup": requires option_setting for "groupid" (number)</p> <p>"muteall"</p> <p>"unmuteall"</p> <p>"pauseall"</p> <p>"playall"</p> <hr/> <p>When device_id of a Sonos device is specified, the following commands can be used:</p> <p>"groupvolume": requires option_setting for volume (number)</p> <p>"groupmute"</p> <p>"volume": requires option_setting for volume (number)</p> <p>"mute"</p> <p>"unmute"</p> <p>"play"</p> <p>"pause"</p> <p>"seek": requires option_setting for position (number)</p> <p>"next"</p> <p>"previous"</p> <p>"selectplaylist": requires option_setting for name of playlist (String)</p> <p>"selectfavorite": requires option_setting for name of favorite (String)</p> <p>"selectnextfavorite"</p> <p>"selectlinein"</p> <p>"selectHDMI"</p> <p>"playaudioclip": requires twice option_settings, one for type of audio clip (enum) and once for clip number (number). Types od audio clips are</p> <p>0: Sonos standard</p> <p>1: ct-standard</p> <p>2: user-defined</p> <p>optional_setting : depending on the command used (see command parameters above)</p>
Example:	<pre>ct.setsonos("global", "creategroup", 3) ct.setsonos("global", "groupmute") ct.setsonos("RINCON_949F3EC192E401400", "selectfavorite", "Radio 4") ct.setsonos("RINCON_949F3EC192E401400", "playaudioclip", 2, 4)</pre>	

ct.getsonos (device_id, parameter)

Calls up the current status of a Sonos device.

Parameters:	device_id:	Specific identifier for Sonos devices (format: RINCON_949F3EC192E401400)
	parameter:	The parameter that is signalled back (the following parameters are available for selection: "groupvolume", "volume", "status", "meta")
Feedback signal	groupvolume:	Current volume of the Sonos group of the device (number)
	volume:	Current volume of the Sonos device (number)
	status:	Current status of the Sonos device (enum: 0:IDLE, 1:BUFFER, 2:PLAY, 3:PAUSED)
	a, b, c, d, e, f, g:	Metadata of the currently played title (multiple strings) A = track_name B = track_artist C = album_name D = album_artist E = show_name F = container_name G = stream_info
Example:	groupvol = ct.getsonos("RINCON_949F3EC192E401400", "groupvolume") a, b, c, d, e, f, g = ct.getsonos("RINCON_949F3EC192E401400", "meta")	

ct.setupnp (device_id, command [, option_setting])

Executes a uPnP command.

Parameters:	device_id:	Specifically identified for UpnP devices (format: RINCON_949F3EC192E401400)
	command:	The following commands can be used: "volume": requires option_setting for volume (number) "mute" "unmute" "play" "pause" "seek": requires option_setting for position (number) "next" "previous"
Example:	ct.setupnp("RINCON_949F3EC192E401400", "volume", 25) ct.setupnp("RINCON_949F3EC192E401400", "mute")	

ct.getupnp (device_id)

Requests the current status of a uPnP device.

Parameters:	device_id:	Specifically identified for UpnP devices (format: RINCON_949F3EC192E401400)
Feedback signal:	Volume:	Current volume of the uPnP device (number)
	Status:	Current status of the uPnP device (string)
	a, b, c, d, e, f, g:	Metadata of the currently played title (multiple strings) A = track_name B = track_artist C = album_name D = album_artist E = show_name F = container_name G = stream_info
Example:	<pre>volume = ct.getupnp("RINCON_949F3EC192E401400", "volume") a, b, c, d, e, f, g = ct.getupnp("RINCON_949F3EC192E401400", "meta")</pre>	

Generally supported LUA functions

tonumber (e [, base])	os.difftime (t2, t1)
tostring (v)	os.time ([table])
type (v)	table.concat (list [, sep [, i [, j]]])
coroutine.create (f)	table.insert (list, [pos,] value)
coroutine.isyieldable ()	table.move (a1, f, e, t [,a2])
coroutine.resume (co [, val1, ...])	table.pack (...)
coroutine.running ()	table.remove (list [, pos])
coroutine.status (co)	table.sort (list [, comp])
coroutine.wrap (f)	table.unpack (list [, i [, j]])
coroutine.yield (...)	math.abs (x)
string.byte (s [, i [, j]])	math.acos (x)
string.char (...)	math.asin (x)
string.dump (function [, strip])	math.atan (y [, x])
string.find (s, pattern [, init [, plain]])	math.ceil (x)
string.format (formatstring, ...)	math.cos (x)
string.gmatch (s, pattern)	math.deg (x)
string.gsub (s, pattern, repl [, n])	math.exp (x)
string.len (s)	math.floor (x)
string.lower (s)	math.fmod (x, y)
string.match (s, pattern [, init])	math.huge
string.pack (fmt, v1, v2, ...)	math.log (x [, base])
string.packsize (fmt)	math.max (x, ...)
string.rep (s, n [, sep])	math.maxnumber
string.reverse (s)	math.min (x, ...)
string.sub (s, i [, j])	math.minnumber
string.unpack (fmt, s [, pos])	math.modf (x)
string.upper (s)	math.pi
utf8.char (...)	math.rad (x)
utf8.charpattern	math.random ([m [, n]])
utf8.codes (s)	math.randomseed (x)
utf8.codepoint (s [, i [, j]])	math.sin (x)
utf8.len (s [, i [, j]])	math.sqrt (x)
utf8.offset (s, n [, i])	math.tan (x)
os.clock ()	math.tonumber (x)
os.date ([format [, time]])	math.type (x)
	math.ult (m, n)

Table 4: LUA functions

8.6.10 Sonos KNX link



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings.

Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Sonos devices can be linked with the KNX bus via menu item "Sonos KNX link". This function is required for operating Sonos devices with other KNX devices. All Sonos devices found automatically are displayed below the group addresses.

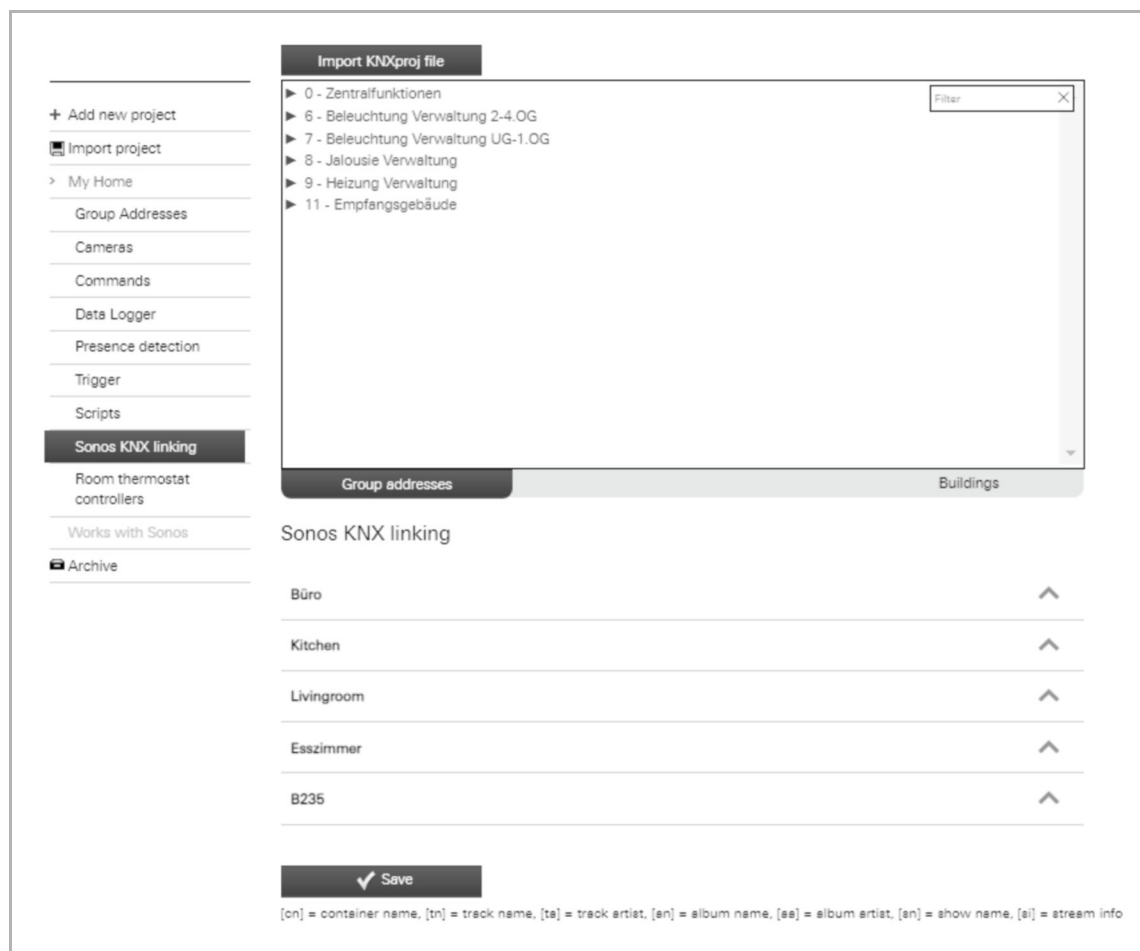


Fig. 43: Sonos KNX link

1. Tap on "Sonos KNX link".
2. Tap on the arrow next to any device.

This enables all available group objects of a device to be viewed.

**Notice**

Certain prerequisites must be met so that the Sonos loudspeakers can be entered in the list of the available devices.

The loudspeakers must have been already installed, switched on and connected with the same network. Then you need to search for "Sonos" in the Busch-ControlTouch® (see chapter 8.9 "Importing the configuration into the Busch-ControlTouch®" on page 252). When the Sonos loudspeakers have been found, the configuration must be loaded again. This loads the information into Cloud and the Sonos loudspeakers are listed automatically at this location.

3. You can link the group objects with the group addresses of the Project. To do this, pull a group address onto a group object via drag and drop.

**Notice**

If a group address can be linked with a communication object, this is displayed in the address line with a green background.

The following list provides explanations about the different group objects and the available group addresses (GA is sent = send; Status GA = received):

- Group volume: Group addresses for sending/receiving
- Device volume: Group addresses for sending/receiving
- Group volume: Group addresses only for receiving
- Device volume: Group addresses only for receiving
- Mute device: Group addresses for sending/receiving
- Play: Group addresses for sending/receiving
- Next: Group addresses only for receiving
- Previous: Group addresses only for receiving
- Shuffle: Group addresses for sending/receiving
- Repeat: Group addresses for sending/receiving
- Meta information: Group address for sending only
- Info for sending: The same group address for sending/receiving
- Select favourites: Group addresses only for receiving
- Select next favourite: Group addresses only for receiving
- Select replay list: Group addresses only for receiving
- Joins the next playing group: Group addresses only for receiving
- Play audio clip (standard): Group addresses only for receiving
- Play audio clip (ones own): Group addresses only for receiving

4. And finally, confirm your changes with the "Save" button.

The changes are applied.

8.6.11 Room temperature controller



NOTE

Please note that when adjusting an existing project, or when an additional project is to be created, access must always take place via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Projects" tab.

Room temperature controllers can be parameterized and linked with group addresses via menu item "Room temperature controller". For this you must import an ETS project file. These can then be available for applications in the app.



Notice

You can add up to 100 room temperature controllers, up to 16 of which can be a master.

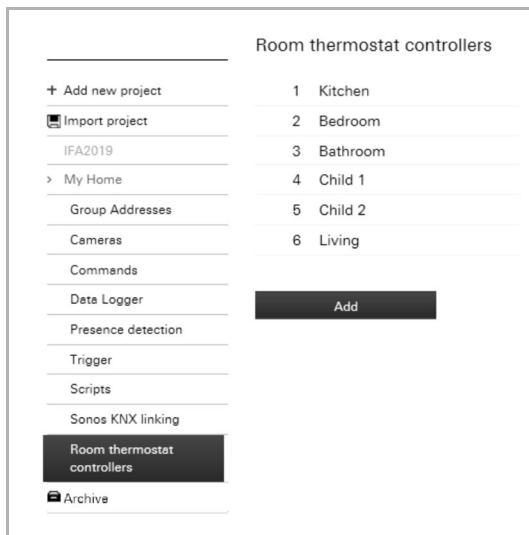


Fig. 44: Add room temperature controllers

1. Tap on "Room temperature controller".
2. Tap on "Add" to add a new room temperature controller.

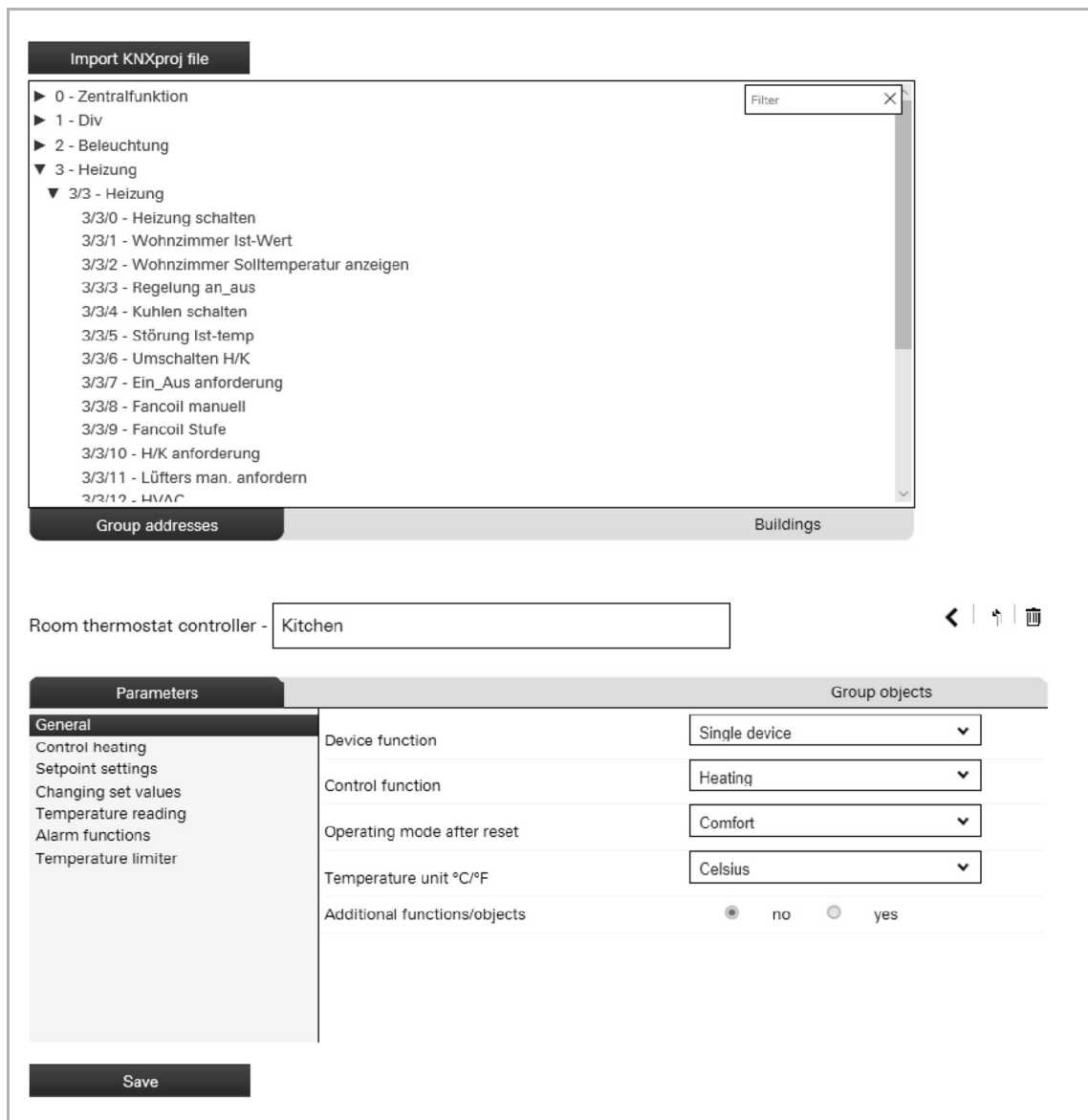


Fig. 45: Room temperature controller parameter

3. Configure the device parameters.
4. Link the group objects with the group addresses. To do this, pull a group address onto a group object via drag and drop.



Notice

If a group address can be linked with a communication object, this is displayed in the address line with a green background.

5. And finally, confirm your settings with the "Save" button.
The changes are applied.

All available device parameters are described as follows.

8.6.12 Parameter settings of room temperature controller

8.6.12.1 General — Device function

Options:	Single device
	Master device
	Temperature transmitter

- *Single device*: The device is used individually in a room for temperature control with fixed temperature values.
- *Master device*: At least two room temperature controllers are located in one room. One device must be set up as a master device, while the others must be programmed as slave devices / temperature sensors. The master device must be linked to the slave devices using the appropriately labelled communication objects. The master device regulates the temperature.
- *Temperature transmitter (slave device)*: The device only sends the measured temperature to the KNX bus.

8.6.12.2 General - Control function

Options:	Heat
	Heating with additional stage
	Cool
	Cooling with additional stage
	Heating and cooling
	Heating and cooling with additional stage

- *Heating*: For operating a heat-based single-room control. The temperature is regulated to the setpoint value defined in the parameter. The "Controller type" and "Heating type" can be programmed for optimal control.
- *Heating with additional stage*: In addition to the control function described under heating, the additional stage enables the activation of an additional heating circuit. This type of additional stage is used, for example, to quickly heat up a bathroom with floor heating via a heated towel rack.
- *Cooling*: For operating a cooling-based single-room control. The temperature is regulated to the setpoint value defined in the parameter. The "Controller type" and "Cooling type" can be programmed for optimal control.
- *Cooling with additional stage*: In addition to the control function described under cooling, the additional stage enables the activation of an additional cooling device. This type of additional stage is used, for example, to quickly cool a room via an added cooling device.
- *Heating and cooling*: For operating a two-wire or four-wire system used to heat or cool a room. Switching between heating and cooling takes place using a central switch (two-wire system) or is carried out manually and / or automatically via the single room temperature controller (four-wire system).
- *Heating and cooling with an additional stage*: In addition to the heating and cooling functions, one additional stage each with an autonomous controller type can be programmed.

**Notice**

This parameter is only available if the "Device function" parameter is set on "Single device" or "Master device".

8.6.12.3 General - Operating mode after reset

Options:	Comfort
	Standby
	Eco mode
	Frost/heat protection

After a reset the device will run in the operating mode after a restart until a new operating mode is set as the result of device operation or by communication objects, as the case may be. This operating mode should be defined during the planning phase. An improperly defined operating mode can result in a loss of comfort or increased energy consumption.

- *Comfort*: If the room temperature is not automatically lowered and the room is therefore controlled independent of its use.
- *Standby*: If the room is controlled automatically, e.g. by a presence detector, as a function of its use.
- *Eco mode*: If the room is controlled automatically or manually as a function of its use.
- *Frost/heat protection*: If only the building protection function is necessary in the room after a reset.

**Notice**

This parameter is only available if the "Device function" parameter is set on "Single device" or "Master device".

8.6.12.4 Unit of temperature

Options:	°C
	°F

The parameter is used to specify the unit with which the temperature is displayed.

8.6.12.5 Additional functions/objects

Options:	No
	Yes

The parameter is used to specify whether parameter "Delay time during reading of telegrams after reset [sec.]" is displayed.

8.6.12.6 General — Delay time for read telegrams after reset

Options:	Setting option from 1 to 255
----------	------------------------------

The parameter is used to set the delay time in seconds with which the received telegrams are transmitted after a reset.

**Notice**

This parameter can only be set when parameter "Additional functions/objects" is set on "Yes".

8.6.12.7 Heating control



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the control function parameter is set on either "Heating," "Heating with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.8 Heating control - Control value type

Options:	2-point 1 bit, Off/On
	2-point 1 byte, (0/100%)
	PI continuous, 0-100%
	PI PWM, On/Off
	Fan coil

The activation of the heating control valve is selected via the controller type.

- 2-point 1 bit, Off/On:
 - The 2-point control is the simplest type of control. The controller switches on when the room temperature drops below a certain level (setpoint temperature value minus hysteresis) and switches off as soon as a particular value (setpoint temperature value plus hysteresis) is exceeded. The switch-on and switch-off commands are transmitted as 1-bit commands. Observe switching cycles for switch actuators!
- 2-point 1 byte, (0/100%):
 - This is another two-point control as described above. In this case, however, the switch-on and switch-off commands are transmitted as 1-byte values (0% or 100%).
- PI continuous, 0-100%:
 - The continuous control has a continuously changing control value as output, which results from the difference between setpoint value and actual value. This change can take on values between 0 and 100%. It sends the control value to the bus as a 1-byte value (0% - 100%). To reduce the bus load, the control value can only be transmitted if it has changed by a predefined percentage in relation to the previously sent value. The control value can also be transmitted cyclically.
- PI PWM, On/Off:
 - This also a PI controller. The output is a 1-bit command. For this, the calculated control value is converted into a pulse-interval signal.
- Fan coil:
 - The fan coil controller functions similar to the PI continuous controller. In addition, it allows the separate control of the fan in the fan coil unit (e.g. fan speed levels 1..3).



Notice

The "Fan coil" controller type can be set in all 4 controller functions (heating/cooling, basic/additional stage). That is why it is recommended not to use the "Fan coil" controller type in the basic and additional stage of the heating/cooling operating mode.

8.6.12.9 Heating control - Heating type

Options:	PI continuous, 0 – 100% and PI PWM, On/Off:
	▪ Area (e.g. floor heating) 4°C 200 min
	▪ Convector (e.g. heater) 1.5°C 100 min
	▪ Free configuration
	Fan coil:
	▪ Fan coil 4°C 90 min
	▪ Free configuration

Multiple heating types (panel heating, convector heating or fan coil) with preset parameters are available to the user.

- If the required heating type is not available, individual parameters can be specified via the free configuration.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.10 Heating control - P-component (x 0.1°C)

Options:	Setting option from 10 to 100
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The P-component refers to the proportional range of a control. It fluctuates around the setpoint value and can be used to influence control speed of a PI controller. The smaller the setpoint, the faster the controller responds. However, to avoid the risk of an overshoot, this value should not be set too low. A P-component from 0.1 to 25.5 K can be set.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Heating type" parameter must be set on "Free configuration".

8.6.12.11 Heating control - I-component (min.)

Options:	Setting option from 0 to 255
----------	------------------------------

The I-component refers to the readjust time of a control. The integral component has the effect of moving the room temperature slowly toward, and ultimately reaching, the setpoint value. Depending on the type of system used, the readjust time has to have different values. In general, the more inactive the overall system, the greater the readjust time.



Notice - Readjust time

- If the I-component "Readjust time" selected too small (fast), the system tends to overshoot at the start.
- If the I-component "Readjust time" is selected too large, the system responds constantly too slow.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Heating type" parameter must be set on "Free configuration".

8.6.12.12 Heating control - Extended settings

Options:	No
	Yes

- No:
 - No additional parameters are enabled.
- Yes:
 - Additional parameters are enabled.

This parameter enables the following additional functions and communication objects in dependence of parameter "Control value type":

- "Basic stage heating"
- "Settings of basic load"

8.6.12.13 Basic stage heating**Notice**

Only available when the "Extended settings" parameter under "Heating control" is set on "Yes".

8.6.12.14 Basic stage heating — Status object heating

Options:	No
	Yes

- No
 - The parameter enables the "Status heating" communication object.
- Yes
 - The parameter enables the "Status heating" communication object.

An On telegram is sent on the bus via the 1-bit communication object as soon as the RTC is in active heating mode.

If the controller is in cooling mode or in the inactive zone between heating and cooling, the RTC sends an OFF telegram via the "Heating status" object.

8.6.12.15 Basic stage heating - Mode of the control value

Options:	Normal
	Inverse

- Normal:
 - The mode of the control value can be used to adapt the control value to de-energised opened (normal) valves.
 - Normal: Means "Valve closed" de-energised closed.
- Inverse
 - The mode of the control value can be used to adapt the control value to de-energised closed (inverse) valves.
 - Inverse: Means "Valve open" de-energised opened.

The mode of the control value can be used to adapt electro-thermal drives.

8.6.12.16 Basic stage heating - Hysteresis (x 0.1°C)

Options:	Setting option from 3 to 255
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The hysteresis of the two-point controller specifies the fluctuation range of the controller around the setpoint value. The lower switching point is located at "Setpoint value minus switch-on point" and the upper point is at "Setpoint value plus switch-off point".

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Bit, Off/On" or "2-point 1 Byte, 0/100%".

8.6.12.17 Basic stage heating - Control value difference for sending of heating control value

Options:	2%
	5%
	10%
	Send cyclic only

The control values of the 0 - 100% PI continuous controller are not transmitted after every new calculation. Instead, they are transmitted when the calculation results in a value that is different enough to the previous sent value. This value difference can be entered here.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.18 Basic stage heating — Cyclic sending of the control value

Options:	Setting option from 00:01:00 to 01:00:00 (hh:mm:ss)
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The current calculated control value used by the device must be cyclically transmitted to the bus.

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 bit, on/off", "2-point 1 byte, 0/100%", "PI continuous, 0-100%" or "Fan coil".

8.6.12.19 Basic stage heating - PWM cycle heating (min)

Options:	Setting option from 1 to 60 minutes
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In PI PWM, On/off the control value percentage values are converted into a pulse-interval signal. This means that a selected PWM cycle will be divided into an switch-on phase and a switch-off phase based on the control value. Accordingly, a control value output of 33% in a PWM cycle of 15 min. results in an On-phase of five minutes and an Off-phase of 10 min. The time for a PWM cycle can be specified here.

**Notice**

This parameter is only available when the "Control value type" parameter is set on "PI PWM, On/Off".

8.6.12.20 Basic stage heating - Maximum control value (0 - 255)

Options:	Setting option from 0 to 255
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The maximum control value of the PI controller defines the maximum value put out by the controller. The maximum value will not be exceeded, even if the controller calculates a higher control value.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.21 Basic stage heating - Minimum control value for basic load (0 to 255)

Options:	Setting option from 0 to 255
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The minimum control value of the PI controller defines the minimum value issued by the controller. If a minimum value that is greater than zero is selected, the controller will not issue a lower value, even if it calculates a control value that is lower. This parameter can be used to set a basic load, e.g. for operating floor heating. Even if the controller calculates the control value zero, a heating medium will flow through the floor heating system to prevent the floor from cooling down. Under "Settings of basic load," it is also possible to define whether this basic load will be permanently active or whether it will be switched by the "Basic load" object.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.22 Control of additional heating stage



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the control function parameter is set on either "Heating with additional stage" or "Heating and cooling with additional stages".

8.6.12.23 Control of additional heating stage - Control value type

Options:	2-point 1 bit, Off/On
	2-point 1 byte, (0/100%)
	PI continuous, 0-100%
	PI PWM, On/Off
	Fan coil

The actuation of the control valve is determined by the selection of the controller type.

- *2-Point 1 Bit, Off/On*: The 2-point control is the simplest type of control. The controller switches on when the room temperature drops below a certain level (setpoint temperature value minus hysteresis) and switches off when a particular value (setpoint temperature value plus hysteresis) is exceeded. The switch-on and switch-off commands are transmitted as 1-bit commands.
- *2-Point 1 Byte, 0/100%*: This is another two-point control as described above. In this case, however, the switch-on and switch-off commands are transmitted as 1-byte values (0% / 100%).
- *PI continuous, 0-100%*: The PI controller adjusts its output value between 0% and 100% to match the difference between the actual value and the setpoint value and enables a precise regulation of the room temperature to the setpoint value. It sends the control value to the bus as a 1-byte value (0% - 100%). To reduce the bus load, the control value is only transmitted if it has changed by a predefined percentage in relation to the previous sent value. The control value can also be transmitted cyclically.
- *PI PWM, On/Off*: This also is a PI controller. The output is a 1-bit command. For this, the calculated control value is converted into a pulse-interval signal.
- *Fan coil*: The fan coil controller operates like the PI continuous controller. In addition, it allows the separate activation of the fan in the fan coil unit (e.g. fan speed levels 1 - 3).

8.6.12.24 Control of additional heating stage - Additional heating type

Options:	PI continuous, 0 – 100% and PI PWM, On/Off:
	▪ Area (e.g. floor heating) 4°C 200 min
	▪ Convector (e.g. heater) 1.5°C 100 min
	▪ Free configuration
	Fan coil:
	▪ Fan coil 4°C 90 min
	▪ Free configuration

Multiple heating types (panel heating, convector heating or fan coil) with preset parameters are available to the user.

- If the required heating type is not available, individual parameters can be specified via the free configuration.



Notice

This parameter is only available when "Control value type" parameter for the additional stage is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.25 Control of additional heating stage - P-component (x 0.1°C)

Options:	Setting option between 10 - 100
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The P-component refers to the proportional range of a control. It fluctuates around the setpoint value and can be used to influence control speed of a PI controller. The smaller the setpoint, the faster the controller responds. However, to avoid the risk of an overshoot, this value should not be set too low. A P-component from 0.1 to 25.5 K can be set.



Notice

This parameter is only available when "Control value type" parameter for the additional stage is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". The "Additional heating type" parameter must be set on "Free configuration".

8.6.12.26 Control of additional heating stage - I-component (min)

Options:	Setting option between 0 - 255
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The I-component refers to the readjust time of a control. The integral component has the effect of moving the room temperature slowly toward, and ultimately reaching, the setpoint value. Depending on the type of system used, the reset time has to have different values. In general, the more inactive the overall system, the greater the readjust time.

**Notice**

This parameter is only available when "Control value type" parameter for the additional stage is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". The "Additional heating type" parameter must be set on "Free configuration".

8.6.12.27 Control of additional heating stage - Temperature difference to basic stage (x 0.1°C)

Options:	Setting option between 0 - 255
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The setpoint temperature of the additional stage is defined as a function of the current setpoint temperature of the base stage and is expressed as a difference. The value represents the setpoint value starting at which the additional stage will operate.

8.6.12.28 Control of additional heating stage - Extended settings

Options:	No
	Yes

This parameter enables additional functions and communication objects, e.g. "Additional heating stage".

8.6.12.29 Additional heating stage**Notice**

Only available when the "Extended settings" parameter under "Control of additional heating stage" is set on "Yes".

8.6.12.30 Additional heating stage - Mode of the control value

Options:	Normal
	Inverse

The mode of the control value can be used to adapt the control value to de-energised opened (normal) or de-energised closed (inverse) valves.

- *Normal*: Value 0 means "Valve closed"
- *Inverse*: Value 0 means "Valve open"

8.6.12.31 Additional Heating Stage - Hysteresis (x 0.1°C)

Options:	Setting option between 3 - 255
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The hysteresis of the two-point controller specifies the fluctuation range of the controller around the setpoint value. The lower switching point is located at "Setpoint value minus hysteresis" and the upper point is at "Setpoint value plus hysteresis".

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Bit, Off/On" or "2-point 1 Byte, 0/100%".

8.6.12.32 Additional heating stage - Control value difference for sending of heating control value

Options:	2%
	5%
	10%
	Send cyclic only

The control values of the 0 - 100% PI continuous controller are not transmitted after every calculation. Instead, they are transmitted when the calculation results in a value that is different enough to the previous sent value to make a transmission meaningful. This value difference can be entered here.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.33 Additional heating stage - Cyclic sending of the control value (min)

Options:	Setting option between 1 - 60 minutes
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The current control value used by the device can be cyclically transmitted to the bus.



Notice

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Byte, 0/100%", "PI continuous, 0-100%" or "Fan coil".

8.6.12.34 Additional heating stage - Maximum control value (0 - 255)

Options:	Setting option between 0 - 255
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The maximum control value of the PI controller defines the maximum value put out by the controller. If a maximum value under 255 is chosen, the value will not be exceeded, even if the controller calculates a higher control value.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.35 Additional heating stage - Minimum control value for basic load (0 - 255)

Options:	Setting option between 0 - 255
----------	--------------------------------

The minimum control value of the PI controller defines the minimum value issued by the controller. If a minimum value that is greater than zero is selected, the controller will not issue a lower value, even if it calculates a control value that is lower. This parameter can be used to set a basic load, e.g. for operating floor heating. Even if the controller calculates the control value zero, a heating medium will flow through the floor heating system to prevent the floor from cooling down. Under "Settings of basic load," it is also possible to define whether this basic load will be permanently active or whether it will be switched by the "Basic load" object.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.36 Cooling control



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the "Control function" parameter is set on either "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.37 Cooling control - Control value type

Options:	2-point 1 bit, Off/On
	2-point 1 byte, (0/100%)
	PI continuous, 0-100%
	PI PWM, On/Off
	Fan coil

The actuation of the control valve is determined by the selection of the controller type.

- *2-Point 1 Bit, Off/On*: The 2-point control is the simplest type of control. The controller switches on when the room temperature drops below a certain level (setpoint temperature value minus hysteresis) and switches off when a particular value (setpoint temperature value plus hysteresis) is exceeded. The switch-on and switch-off commands are transmitted as 1-bit commands.
- *2-Point 1 Byte, 0/100%*: This is another two-point control as described above. In this case, however, the switch-on and switch-off commands are transmitted as 1-byte values (0% / 100%).
- *PI continuous, 0-100%*: The PI controller adjusts its output value between 0% and 100% to match the difference between the actual value and the setpoint value and enables a precise regulation of the room temperature to the setpoint value. It sends the control value to the bus as a 1-byte value (0% - 100%). To reduce the bus load, the control value is only transmitted if it has changed by a predefined percentage in relation to the previous sent value. The control value can also be transmitted cyclically.
- *PI PWM, On/Off*: This also is a PI controller. The output is a 1-bit command. For this, the calculated control value is converted into a pulse-interval signal.
- *Fan coil*: The fan coil controller operates like the PI continuous controller. In addition, it allows the separate activation of the fan in the fan coil unit (e.g. fan speed levels 1 - 3).

8.6.12.38 Cooling control - Cooling type

Options:	PI continuous, 0 – 100% and PI PWM, On/Off:
	▪ Area (e.g. cooling ceiling) 5°C 240 min
	▪ Free configuration
	Fan coil:
	▪ Fan coil 4°C 90 min
	▪ Free configuration

Two cooling types (area or fan coil) with preset parameters are available to the user.

If the required cooling type is not available, individual parameters can be specified in free configuration.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.39 Cooling control - P-component (x 0.1°C)

Options:	Setting option between 10 - 100
----------	---------------------------------

The P-component refers to the proportional range of a control. It fluctuates around the setpoint value and can be used to influence control speed of a PI controller. The smaller the setpoint, the faster the controller responds. However, to avoid the risk of an overshoot, this value should not be set too low. A P-component from 0.1 to 25.5 K can be set.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Cooling type" parameter must be set on "Free configuration".

8.6.12.40 Cooling control - I-component (min.)

Options:	Setting option between 0 - 255
----------	--------------------------------

The I-component refers to the readjust time of a control. The integral component has the effect of moving the room temperature slowly toward, and ultimately reaching, the setpoint value. Depending on the type of system used, the reset time has to have different values. In general, the more inactive the overall system, the greater the readjust time.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Cooling type" parameter must be set on "Free configuration".

8.6.12.41 Cooling control - Extended settings

Options:	No
	Yes

This parameter enables additional functions and communication objects, e.g. "Basic stage cooling".

8.6.12.42 Basic stage cooling**Notice**

Only available when the "Extended settings" parameter under "Cooling control" is set on "Yes".

8.6.12.43 Basic stage cooling — Status object cooling

Options:	No
	Yes

This parameter enables the "Status cooling" communication object.

8.6.12.44 Basic stage cooling — Mode of the control value

Options:	Normal
	Inverse

The mode of the control value can be used to adapt the control value to de-energised opened (normal) or de-energised closed (inverse) valves.

- *Normal*: Value 0 means "Valve closed"
- *Inverse*: Value 0 means "Valve open"

8.6.12.45 Basic stage heating - Control value difference for sending of heating control value

Options:	2%
	5%
	10%
	Send cyclic only

The control values of the 0 - 100% PI continuous controller are not transmitted after every calculation. Instead, they are transmitted when the calculation results in a value that is different enough to the previous sent value to make a transmission meaningful. This value difference can be entered here.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.46 Basic stage cooling — Hysteresis (x 0.1°C)

Options:

Setting option between 3 - 255

The hysteresis of the two-point controller specifies the fluctuation range of the controller around the setpoint value. The lower switching point is located at "Setpoint value minus hysteresis" and the upper point is at "Setpoint value plus hysteresis".

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Bit, Off/On" or "2-point 1 Byte, 0/100%".

8.6.12.47 Basic stage cooling — Cyclic sending of the control value (min)

Options:

Setting option between 1 - 60 minutes

The current control value used by the device can be cyclically transmitted to the bus.

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Byte, 0/100%", "PI continuous, 0-100%" or "Fan coil".

8.6.12.48 Basic stage cooling — PWM cycle cooling (min)

Options:

Setting option between 1 - 60 minutes

In PI PWM, On/off the control value percentage values are converted into a pulse-interval signal. This means that a selected PWM cycle will be divided into an on-phase and an off-phase based on the control value. Accordingly, a control value output of 33% in a PWM cycle of 15 min. results in an On-phase of five minutes and an Off-phase of 10 min. The time for a PWM cycle can be specified here.

**Notice**

This parameter is only available when the "Control value type" parameter is set on "PI PWM, On/Off".

8.6.12.49 Basic stage cooling — Maximum control value (0 - 255)

Options:

Setting option between 0 - 255

The maximum control value of the PI controller defines the maximum value put out by the controller. If a maximum value under 255 is chosen, the value will not be exceeded, even if the controller calculates a higher control value.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.50 Basic stage cooling — Minimum control value for basic load (0 to 255)

Options:

Setting option between 0 - 255

The minimum control value of the PI controller defines the minimum value issued by the controller. If a minimum value that is greater than zero is selected, the controller will not issue a lower value, even if it calculates a control value that is lower. This parameter can be used to set a basic load, e.g. for operating surface cooling. Even if the controller calculates the control value zero, a cooling medium will flow through the cooling area to prevent the floor from heating up. Under "Settings of basic load," it is also possible to define whether this basic load will be permanently active or whether it will be switched by the "Basic load" object.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.51 Control of additional cooling stage



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the control function parameter is set on either "Cooling with additional stage" or "Heating and cooling with additional stages".

Options:	2-point 1 bit, Off/On
	2-point 1 byte, (0/100%)
	PI continuous, 0-100%
	PI PWM, On/Off
	Fan coil

The actuation of the control valve is determined by the selection of the controller type.

- *2-Point 1 Bit, Off/On*: The 2-point control is the simplest type of control. The controller switches on when the room temperature drops below a certain level (setpoint temperature value minus hysteresis) and switches off when a particular value (setpoint temperature value plus hysteresis) is exceeded. The switch-on and switch-off commands are transmitted as 1-bit commands.
- *2-Point 1 Byte, 0/100%*: This is another two-point control as described above. In this case, however, the switch-on and switch-off commands are transmitted as 1-byte values (0% / 100%).
- *PI continuous, 0-100%*: The PI controller adjusts its output value between 0% and 100% to match the difference between the actual value and the setpoint value and enables a precise regulation of the room temperature to the setpoint value. It sends the control value to the bus as a 1-byte value (0% - 100%). To reduce the bus load, the control value is only transmitted if it has changed by a predefined percentage in relation to the previous sent value. The control value can also be transmitted cyclically.
- *PI PWM, On/Off*: This also is a PI controller. The output is a 1-bit command. For this, the calculated control value is converted into a pulse-interval signal.
- *Fan coil*: The fan coil controller operates like the PI continuous controller. In addition, it allows the separate activation of the fan in the fan coil unit (e.g. fan speed levels 1 - 3).

8.6.12.52 Control of additional cooling stage — Cooling type

Options:	PI continuous, 0 – 100% and PI PWM, On/Off:
	▪ Area (e.g. cooling ceiling) 5°C 240 min
	▪ Free configuration
	Fan coil:
	▪ Fan coil 4°C 90 min
	▪ Free configuration

Two cooling types (area or fan coil) with preset parameters are available to the user.

If the required cooling type is not available, individual parameters can be specified in free configuration.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.53 Control of additional cooling stage — P-component (x 0.1°C)

Options:	Setting option between 10 - 100
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The P-component refers to the proportional range of a control. It fluctuates around the setpoint value and can be used to influence control speed of a PI controller. The smaller the setpoint, the faster the controller responds. However, to avoid the risk of an overshoot, this value should not be set too low. A P-component from 0.1 to 25.5 K can be set.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Cooling type" parameter must be set on "Free configuration".

8.6.12.54 Control of additional cooling stage — P-component (min)

Options:	Setting option between 0 - 255
----------	--------------------------------

The I-component refers to the readjust time of a control. The integral component has the effect of moving the room temperature slowly toward, and ultimately reaching, the setpoint value. Depending on the type of system used, the reset time has to have different values. In general, the more inactive the overall system, the greater the readjust time.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil". In addition, the "Cooling type" parameter must be set on "Free configuration".

8.6.12.55 Control of additional cooling stage - Temperature difference to basic stage (x 0.1°C)

Options:	Setting option between 0 - 255
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The setpoint temperature of the additional stage is defined as a function of the current setpoint temperature of the base stage and is expressed as a difference. The value represents the setpoint value starting at which the additional stage will operate.

8.6.12.56 Control of additional cooling stage — Extended settings

Options:	No
	Yes

This parameter enables additional functions and communication objects, e.g. "Additional cooling stage".

8.6.12.57 Additional cooling stage**Notice**

Only available when the "Extended settings" parameter under "Control of additional cooling stage" is set on "Yes".

8.6.12.58 Additional cooling stage — Mode of the control value

Options:	Normal
	Inverse

The mode of the control value can be used to adapt the control value to de-energised opened (normal) or de-energised closed (inverse) valves.

- *Normal*: Value 0 means "Valve closed"
- *Inverse*: Value 0 means "Valve open"

8.6.12.59 Additional cooling stage — Hysteresis (x 0.1°C)

Options:	Setting option between 3 - 255
----------	--------------------------------

The hysteresis of the two-point controller specifies the fluctuation range of the controller around the setpoint value. The lower switching point is located at "Setpoint value minus hysteresis" and the upper point is at "Setpoint value plus hysteresis".

**Notice**

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Bit, Off/On" or "2-point 1 Byte, 0/100%".

8.6.12.60 Additional cooling stage — Control value difference for sending of cooling control value

Options:	2%
	5%
	10%
	Send cyclic only

The control values of the 0 - 100% PI continuous controller are not transmitted after every calculation. Instead, they are transmitted when the calculation results in a value that is different enough to the previous sent value to make a transmission meaningful. This value difference can be entered here.

**Notice**

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.61 Additional cooling stage — Cyclic sending of the control value (min)

Options:	Setting option between 1 - 60 minutes
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The current control value used by the device can be cyclically transmitted to the bus.



Notice

This parameter is only available when the "Control value type" parameter is set either on "2-point 1 Byte, 0/100%", "PI continuous, 0-100%" or "Fan coil".

8.6.12.62 Additional cooling stage — Maximum control value (0 - 255)

Options:	Setting option between 0 - 255
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The maximum control value of the PI controller defines the maximum value put out by the controller. If a maximum value under 255 is chosen, the value will not be exceeded, even if the controller calculates a higher control value.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.63 Additional cooling stage — Minimum control value for basic load (0 - 255)

Options:	Setting option between 0 - 255
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The minimum control value of the PI controller defines the minimum value issued by the controller. If a minimum value that is greater than zero is selected, the controller will not issue a lower value, even if it calculates a control value that is lower. This parameter can be used to set a basic load, e.g. for operating surface cooling. Even if the controller calculates the control value zero, a cooling medium will flow through the cooling area to prevent the floor from heating up. Under "Settings of basic load," it is also possible to define whether this basic load will be permanently active or whether it will be switched by the "Basic load" object.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.64 Settings of basic load



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the control function parameter is set on either "Heating with additional stage," "Cooling with additional stage", "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.65 Settings of basic load — Minimum control value for basic load > 0

Options:	Always active
	Activate via object

The function is, for example, used if the floor in the required area must have a basic warmth, e.g. floor heating. The size of the minimum control value specifies the volume of heating medium that flows through the controlled area, even when the calculation of the control value of the controller would indicate a lower value.

- *Always active*: Here it is possible to define whether this basic load will be permanently active or whether it will be switched via the "Basic load" object.
- *Activate via object*: When this parameter is selected, the basic load function, which means the minimum control value with a value higher than zero, can be activated (1) or deactivated (0) using the "Basic load" object. If it is activated, then the heating medium will always be fed through the system with at least the minimum control value. If it is deactivated, the control value can be reduced to zero with the controller.

8.6.12.66 Basic load settings — Basic load active when controller is off

Options:	No
	Yes

- This parameter switches the basic load active when the controller is off.



Notice

This parameter is only available when "Control value type" parameter is set either on "PI continuous, 0 – 100%", "PI PWM, On/Off" or "Fan coil".

8.6.12.67 Combined heating and cooling modes



Notice

Only available when the "Device function" parameter is set on either "Single device" or "Master device" and the control function parameter is set on either "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.68 Combined heating and cooling modes — Switchover of heating/cooling

Options:	Automatic
	Only via object
	On-site/via extension unit and via object

This function makes it possible to switch between the heating and cooling mode of the device.

- *Automatic*: E.g. for four-conductor systems which allow the switchover between heating and cooling at all times. The device switches automatically between heating and cooling and to the associated setpoint. "Switchover heating/cooling" is a transmitting object.
- *Only via object*: E.g. for two-conductor systems which are operated in heating mode in the winter and cooling mode in the summer. The switchover between heating and cooling and to the associated setpoint is carried out via the corresponding communication object. This function is used when a central switchover of the single room controllers is required. "Switchover heating/cooling" is a receiving object.
- *Local/ via extension unit and via object*: E.g. for four-conductor systems which allow the switchover between heating and cooling at all times. The switchover between heating and cooling and to the associated setpoint is carried out manually on the device by the user of the room or via the "Switchover heating/cooling" object via the bus. "Switchover heating/cooling" is a transmitting and receiving object.

8.6.12.69 Combined heating and cooling modes — Operating mode after reset

Options:	Cool
	Heat

After a bus voltage failure, a system reset, or the attachment of the device to the bus coupler, the device starts in the parameterised "Operating mode after reset". The operating mode can be changed when the system is running using the options set under "Switchover heating/cooling".

8.6.12.70 Combined heating and cooling modes — Heating/cooling control value output

Options:	Via 1 object
	Via 2 objects

This parameter is used to define whether the control value is transmitted to the climate control actuator using one or two objects. If the climate control actuator has separate control value inputs for heating and cooling, or if separate actuators are used, then the option "Via 2 objects" must be selected. Select the option "Via 1 object" if a single actuator only has one object that receives both the heating and the cooling control values.

8.6.12.71 Combined heating and cooling modes — Additional heating/cooling stage control value output

Options:	Via 1 object
	Via 2 objects

This parameter is used to define whether the control value is transmitted to the climate control actuator using one or two objects. If the climate control actuator has separate control value inputs for heating and cooling, or if separate actuators are used, then the option "Via 2 objects" must be selected. Select the option "Via 1 object" if a single actuator only has one object that receives both the heating and the cooling control values.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating and cooling with additional stages".

8.6.12.72 Setpoint settings**Notice**

Only available when the "Device function" parameter is set either on "Single device" or "Master device".

8.6.12.73 Setpoint settings — Setpoint for heating comfort = setpoint for cooling comfort

Options:	No
	Yes

This parameter is used to configure the manner in which the setpoint adjustment functions.

- **Yes:** The device has the same setpoint for heating and cooling in the comfort mode. The system switches to heating mode when the temperature drops below the setpoint minus hysteresis. It switches to cooling mode when the temperature exceeds the setpoint plus hysteresis. The hysteresis can be parameterised.
- **No:** The function has two separate setpoints for heating and cooling in the comfort mode. The device will display the currently active setpoint value. Switching between heating and cooling occurs via the "Switchover heating/cooling" parameter setting.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating and cooling" or "heating and cooling with additional stages".

8.6.12.74 Setpoint settings — Standby and Eco are absolute values

Options:	No
	Yes

This parameter is used to set the indication of the display for standby and Eco mode.

- **Yes:**
 - The setpoints for standby and Eco mode are entered as absolute values.
- **No:**
 - The setpoints for standby and Eco mode are entered as temperature difference to the setpoint of comfort mode. At an adjustment of the comfort setpoint temperature during operation of the device the setpoints for standby and Eco mode are shifted at the same temperature difference from comfort mode.

8.6.12.75 Setpoint settings - Hysteresis for switchover heating/cooling (x 0.1°C)

Options:	Setting option between 5 - 100
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This parameter specifies the one-sided hysteresis for switching between heating and cooling when "Setpoint heating comfort = Setpoint cooling comfort" is active. If the room temperature exceeds the setpoint temperature value plus hysteresis, the system switches to cooling mode. If the room temperature falls below the setpoint temperature value minus hysteresis, the system switches to heating mode.

**Notice**

This parameter is only available when the "Setpoint heating comfort = Setpoint cooling comfort" parameter is set on "Yes".

8.6.12.76 Setpoint settings — Setpoint temperature for heating and cooling comfort (°C)

Options:	Setting option between 10 - 40
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Specifies the comfort temperature for heating and cooling when people are present.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating and cooling" or "heating and cooling with additional stages".

8.6.12.77 Setpoint settings — Setpoint temperature for heating comfort (°C)

Options:	Setting option between 10 - 40
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Specifies the comfort temperature for heating when people are present.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating, "Heating with additional stage", "Heating and cooling" or "Heating and cooling with additional stage" and parameter "Setpoint heating comfort = setpoint cooling comfort" is set on "No".

8.6.12.78 Setpoint settings — Reduction for standby heating (°C)

Options:	Setting option between 0 - 15
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Specifies the temperature in heating mode when nobody is present. On devices with a display, this mode is indicated by the standby icon.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating," "Heating with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.79 Setpoint settings — Reduction for ECO heating (°C)

Options:	Setting option between 0 - 15
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Specifies the temperature in heating mode when nobody is present. On devices with a display, this mode is indicated by the ECO icon.

8.6.12.80 Setpoint settings — Setpoint temperature for frost protection (°C)

Options:	Setting option between 5 - 15
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Function for protecting the building against the cold. On devices with a display, this mode is indicated by the frost protection icon. Manual operation is blocked.



Notice

This parameter is only available when the "Control function" parameter is set on "Heating," "Heating with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.81 Setpoint settings — Setpoint temperature for cooling comfort (°C)

Options:	Setting option between 10 - 40
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Specifies the comfort temperature for cooling when people are present.



Notice

This parameter is only available when the "Control function" parameter is set on "Cooling" or "Cooling with additional stage".

8.6.12.82 Setpoint settings — Increase for standby cooling (°C)

Options:	Setting option between 0 - 15
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Specifies the temperature in cooling mode when nobody is present. On devices with a display, this mode is indicated by the standby icon.



Notice

This parameter is only available when the "Control function" parameter is set on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.83 Setpoint settings — Increase for ECO cooling (°C)

Options:	Setting option between 0 - 15
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Specifies the temperature in cooling mode when nobody is present. On devices with a display, this mode is indicated by the ECO icon.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.84 Setpoint settings — Setpoint temperature for heat protection (°C)

Options:	Setting option between 27 - 45
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Function for protecting the building against heat. On devices with a display, this mode is indicated by the heat protection icon. Manual operation is blocked.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.85 Setpoint settings - Setpoint adjustment via communication object (DPT 9.001)

Options:	No
	For comfort, Eco, standby
	For comfort, Eco, standby, building protection

The communication objects that allow the adjustment of the parameterised setpoints via the bus are enabled via the associated parameters.

**Notice**

If the received temperature values are not possible (heating setpoint via cooling setpoint or on the other side the comfort or building protection values), they are then ignored. To display this event a telegram with value "1" is sent via communication object "Setpoint error".

8.6.12.86 Setpoint settings - Hide temperature unit

Options:	No
	Yes

This parameter makes it possible to hide the temperature unit as well as the absolute and the relative setpoint. This standardises the function between master/individual device and slave devices.

8.6.12.87 Setpoint settings — Display indicates

Options:	Current setpoint
	Relative setpoint

The display can indicate either the absolute or relative setpoint value.

- *Current setpoint*: On devices with a display, the setpoint is shown as an absolute temperature, e.g. 21.0°C.
- *Relative setpoint*: On devices with display, the setpoint is indicated as a relative value, e.g. -5°C to +5°C.

8.6.12.88 Setpoint settings — Send current setpoint

Options:	Cyclic and during change
	Only for change

The current setpoint value can be sent to the bus either cyclically and after a change, or only after a change.

8.6.12.89 Setpoint settings — Cyclic sending of the current setpoint temperature (min)

Options:	Setting option between 5 - 240
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This parameter is used to specify the amount of time that will elapse before the current setpoint value is automatically transmitted.

**Notice**

This parameter is only available when the "Send current setpoint" is set on "Only during change".

8.6.12.90 Setpoint settings - Basic set value is

Options:	Set-point for cooling comfort
	Set-point for heating comfort
	Mean value between heating comfort and cooling comfort

- Setpoint for cooling comfort:
 - The device uses the temperature value that has been set via parameter "Setpoint temperature for cooling comfort" (°C).
- Set-point for heating comfort:
 - The device uses the temperature value that has been set via parameter "Setpoint temperature for heating comfort" (°C).
- Mean value between heating comfort and cooling comfort:
 - The device uses the mean value of the two specified setpoints.

The RTC requires a defines basic set value for its function. The parameter is used to specify the set value the device accesses.

**Notice**

The parameter can only be set when the "Setpoint heating comfort = Setpoint cooling comfort" parameter is set on "No".

8.6.12.91 Setpoint adjustment**Notice**

Only available when the "Device function" parameter is set either on "Single device" or "Master device".

8.6.12.92 Setpoint adjustment — Maximum manual increase during heating mode (0 - 9°C)

Options:	Setting option between 0 - 9
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This preset can be used to limit the manual increase during heating.

**Notice**

This parameter is only available when parameter "Controller function" is set on "Heating" and parameter "Control value type" on "2-point 1 bit, On/Off" or "2-point 1 byte, 0/100%".

8.6.12.93 Setpoint adjustment — Maximum manual reduction during heating mode (0 - 9°C)

Options:	Setting option between 0 - 9
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This preset can be used to limit the manual decrease during heating.

**Notice**

This parameter is only available when parameter "Controller function" is set on "Heating" and parameter "Control value type" on "2-point 1 bit, On/Off" or "2-point 1 byte, 0/100%".

8.6.12.94 Setpoint adjustment — Maximum manual increase during cooling mode (0 - 9°C)

Options:	Setting option between 0 - 9
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This preset can be used to limit the manual increase during cooling.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Cooling", "Cooling with additional stage", "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.95 Setpoint adjustment — Maximum manual reduction during cooling mode (0 - 9°C)

Options:	Setting option between 0 - 9
----------	------------------------------

This preset can be used to limit the manual decrease during cooling.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Cooling", "Cooling with additional stage", "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.96 Setpoint adjustment - Step size of manual setpoint adjustment

Options:	0.1 K
	0.2 K
	0.5 K
	1.0 K

The default can be used to set the step size of the setpoint adjustment per press of the button on the device. The default setting is 0.5 K.

8.6.12.97 Setpoint adjustment - Setpoint adjustment via communication object

Options:	1-byte counter value
	Absolute temperature value
	Relative temperature value

The default is used to set the datapoint type with which a setpoint adjustment via the bus on the device can be carried out. Available for selection are

- the 1-byte counter value in format DPT 6.010, which multiplied with the step size results in the setpoint adjustment and
- the absolute (DPT 9.001) und
- relative (DPT 9.002) setpoint temperature.

8.6.12.98 Setpoint adjustment — Resetting of the manual adjustment for receipt of a basic setpoint

Options:	No
	Yes

Activating this parameter will cause the manual adjustment to be deleted and the new setpoint value to be provided when a new value is received via the "Basic setpoint" object.

If the parameter is deactivated, the manual adjustment is added to the new base setpoint value. Example: Previous base setpoint value of 21°C + manual adjustment of 1.5°C = 22.5°C. The object receives a new basic setpoint of 18°C plus the previous manual adjustment of 1.5°C for a total of 19.5°C.

8.6.12.99 Setpoint adjustment — Resetting the manual adjustment for change of operating mode

Options:	No
	Yes

If the device switches to a new operating mode, the manual adjustment is deleted and the parameterised setpoint temperature for the operating mode plus any change by the base setpoint value object will be applied if this parameter is activated. Example: Comfort temperature of 21°C plus manual adjustment of 1.5°C = 22.5°C. Change to Eco with programmed temperature 17°C. The device regulates the temperature to 17°C, since the manual adjustment is deleted.

If the parameter is deactivated, the manual setpoint adjustment will be added to the temperature in the new operating mode. Example: Comfort temperature of 21°C plus manual adjustment of 1.5°C = 22.5°C. If the system switches to Eco with a parameterised temperature of 17°C, the device regulates the temperature to 18.5°C, since the manual adjustment is added.

8.6.12.100 Setpoint adjustment — Resetting the manual adjustment via object

Options:	No
	Yes

If this parameter is activated, a separate object can be used to delete the manual adjustment at any time. Example of application: Resetting the manual adjustment on all devices located in a building using a system clock.

8.6.12.101 Setpoint adjustment — Permanent storage of on-site operation

Options:	No
	Yes

If this parameter is activated, the manual settings for setpoint and, where applicable, fan speed level, as well as the value of the "Basic load" object, will be stored in the device and re-activated after a reset. The same applies to the operating mode.

If the device is re-programmed, the stored setpoint values will also be deleted.

8.6.12.102 Temperature reading — Inputs of temperature reading

Options:	Internal measurement
	External measurement
	Weighted measurement

The room temperature can be measured at the device or fed to the device by an object via the bus. In addition, weighted measuring is also available, in which the weighted average of up to three temperature values (1 x internal, 2 x external) is calculated and used as an input value for control.

8.6.12.103 Temperature reading — Inputs of weighted temperature reading

Options:	Internal and external measurement
	2x external measurement
	Internal and 2x external measurement

Specifies the temperature reading inputs for the weighted measurement, in which the calculated weighted average of the inputs is used as an input value for control.

**Notice**

This parameter is only available when the "Inputs of temperature reading" parameter is set on "Weighted measurement".

8.6.12.104 Temperature reading — Weighting of internal measurement (0 to 100%)

Options:	Setting option between 0 - 100
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Specifying the weighting of the internal measurement from 0 to 100%.

**Notice**

This parameter is only available when the "Inputs of weighted temperature reading" parameter is set on "Internal and external measurement" or "Internal and 2x external measurement".

8.6.12.105 Temperature reading — Weighting of external measurement (0 to 100%)

Options:	Setting option between 0 - 100
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Specifying the weighting of the external measurement from 0 to 100%.

**Notice**

This parameter is only available when the "Inputs of weighted temperature reading" parameter is set on "Internal and external measurement", "2x external measurement" or "Internal and 2x external measurement".

8.6.12.106 Temperature reading — Weighting of external measurement 2 (0 to 100%)

Options:	Setting option between 0 - 100
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Specifying the weighting of the external measurement 2 from 0 to 100%. The setting together with the weighting of the external measurement (0 - 100%) must result in 100%.



Notice

This parameter is only available when the "Inputs of weighted temperature reading" parameter is set on "2x external measurement" or "Internal and 2x external measurement".

8.6.12.107 Temperature reading — Cyclic sending of the actual temperature (min)

Options:	Setting option between 5 - 240
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The current actual temperature used by the device can be cyclically transmitted to the bus.



Notice

This parameter is only available when the "Inputs of temperature reading" parameter is set on "Internal measurement" or "Weighted measurement".

8.6.12.108 Temperature reading — Difference of value for sending the actual temperature (x 0.1°C)

Options:	Setting option between 1 - 100
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If the change in temperature exceeds the parameterised difference between the measured actual temperature and the previous actual temperature that was sent, the changed value will be transmitted.



Notice

This parameter is only available when the "Inputs of temperature reading" parameter is set on "Internal measurement" or "Weighted measurement".

8.6.12.109 Temperature reading — Adjustment value for internal temperature measurement (x 0.1°C)

Options:	Setting option between 1 - 100
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Every installation location has different physical conditions (interior or exterior wall, lightweight or solid wall, etc.). In order to use the actual temperature at the installation location as a measured value for the device, a temperature measurement must be performed by an external equalised and / or calibrated thermometer at the installation location. The difference between the actual temperature displayed on the device and the actual temperature determined by the external measurement device must be entered in the parameter field as an "Adjustment value".

**Notice**

- The calibration measurement should not be carried out immediately after the device has been installed. The device should first adjust to the ambient temperature before calibration is carried out. The calibration measurement should be repeated shortly before or after the room is occupied.
- This parameter is only available when the "Inputs of temperature reading" parameter is set on "Internal measurement" or "Weighted measurement".

8.6.12.110 Temperature reading — Monitoring of temperature reading

Options:	No
	Yes

This parameter can be used to activate monitoring of temperature reading.

8.6.12.111 Temperature reading — Monitoring time for temperature reading

Options:	Setting option between 00:05:00 – 18:12:15 (hh:mm:ss)
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If no temperature is read within the parameterised time period, the device switches to error mode. It transmits a telegram to the bus via the "Actual temperature error" object and applies the operating mode and control value for error settings. Rather small monitoring times are prevented via the specified setting option.

**Notice**

The parameter is only adjustable if the "Monitoring of temperature reading" parameter is set on "Yes".

8.6.12.112 Temperature reading — Operating mode for fault

Options:	Cool
	Heat

In the event of a failure of the actual temperature measurement, the device will no longer be able to independently specify the heating/cooling operating type. As a result, the operating type best suited to protecting the building will be selected.

**Notice**

This parameter is only available when the "Control function" parameter is set on "Heating and cooling" or "heating and cooling with additional stages".

8.6.12.113 Temperature reading — Control value for fault (0 - 255)

Options:	Setting option between 0 - 255
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In the event of a failure of the actual temperature measurement, the device will no longer be able to independently determine the control value. In case of an error, a PWM control (1 Bit) with a fixed cycle time of 15 minutes is used automatically instead of a parameterized 2-point control (1 Bit). In this case the set parameter value is taken into consideration for the control value during an error.

8.6.12.114 Alarm functions**Notice**

Only available when the "Device function" parameter is set either on "Single device" or "Master device".

8.6.12.115 Alarm functions - Condensate water alarm

Options:	No
	Yes

If a fan coil device is used, condensation may form during operation as a result of excessive cooling and/or humidity. The associated condensate is typically collected in a container. To protect the container against overflowing, and thus prevent potential damage to devices and/or the building, the container alerts the "Condensation alarm" object (receiving only) that the maximum fill level has been exceeded. This causes the controller to switch to a protective mode. This status is indicated by the corresponding icon on devices that have a display. Local operation is blocked. Operation is only possible again after the alarm has been deactivated.

**Notice**

This parameter is only available when the "Control function" parameter is set either on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.116 Alarm functions — Dew point alarm

Options:	No
	Yes

When refrigerating machines are used, dew may appear on the refrigerant supply lines during operation as a result of excessive cooling and/or humidity. The dew indicator reports the dew formation via the "Dew point alarm" object (receiving only). This causes the controller to switch to a protective mode. This status is indicated by the corresponding icon on devices that have a display. Local operation is blocked. Operation is only possible again after the alarm has been deactivated.

**Notice**

This parameter is only available when the "Control function" parameter is set either on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.117 Alarm functions - Frost alarm temperature for HVAC and RHCC status (°C)

Options:	Setting option between 0 - 15
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The RHCC status and HVAC objects have a frost alarm bit. If the input temperature of the controller drops below the temperature set in this parameter, then the frost alarm bit is set in the status objects. It is reset when the temperature is exceeded.

8.6.12.118 Alarm functions - Heat alarm temperature for RHCC status (°C)

Options:	Setting option between 25 - 70
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The RHCC status object has a heat alarm bit. If the input temperature of the controller exceeds the temperature set in this parameter, then the heat alarm bit is set in the status object. It is reset when the temperature falls below the set temperature.

8.6.12.119 Temperature limiter

Temperature limiting, for example, serves to protect wooden floors from heating up too much by the floor heating. For this the thermal limiter receives an external temperature value from the floor sensor. If the measured value exceeds the set threshold value, the control value is reset to zero. The control value is activated again when the value drops below the threshold value.

8.6.12.120 Temperature limiter - Temperature limit of heating

Options:	No
	Yes

The parameter is used to activate or deactivate the temperature limit for the basic heating stage.

**Notice**

This parameter is only available when the "Control function" parameter is set either on "Heating," "Heating with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.121 Temperature limiter - Temperature limit of heating - Limit temperature

Options:	Setting option between 20 - 100°C
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The parameter is used to set the limit temperature for the basic heating stage. The temperature limit becomes active when the input temperatures are above the limit temperature.

8.6.12.122 Temperature limiter - Temperature limit of heating - Hysteresis

Options:	Setting option between 0.5 - 5 K
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The parameter is used to set the hysteresis for the temperature limit of the basic heating stage. At an active limit the temperature limit is deactivated again when the input temperatures are below the limit temperature minus hysteresis.

8.6.12.123 Temperature limiter - Temperature limit of heating - Integral component of the PI controller

Options:	Keep
	Reset

The parameter is used to define the processing of the I-component of a PI controller for temperature limiting.

If the I-component is retained, this value is the starting point for continuing the PI controller after the termination of the temperature limit. This option is suitable for slow control systems.

If the I-component is reset, the PI controller starts after the termination of the temperature limit with an I-component of zero. This option is suitable for fast control systems.

If no PI controller is used, this parameter is without function.

8.6.12.124 Temperature limiter - Temperature limit of additional heating stage

Options:	No
	Yes

The parameter is used to activate or deactivate the temperature limit for the basic heating stage.



Notice

This parameter is only available when the "Control function" parameter is set either on "Heating with additional stage," or "Heating and cooling with additional stages".

8.6.12.125 Temperature limiter - Temperature limit of additional heating stage - Limit temperature

Options:	Setting option between 20 - 100°C
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The parameter is used to set the limit temperature for the basic additional heating stage. The temperature limit becomes active when the input temperatures are above the limit temperature.

8.6.12.126 Temperature limiter - Temperature limit of additional heating stage - Hysteresis

Options:	Setting option between 0.5 - 5 K
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The parameter is used to set the hysteresis for the temperature limit of the additional heating stage. At an active limit the temperature limit is deactivated again when the input temperatures are below the limit temperature minus hysteresis.

8.6.12.127 Temperature limiter - Temperature limit of additional heating stage - Integral component of the PI controller

Options:	Keep
	Reset

The parameter is used to define the processing of the I-component of a PI controller for temperature limiting.

If the I-component is retained, this value is the starting point for continuing the PI controller after the termination of the temperature limit. This option is suitable for slow control systems.

If the I-component is reset, the PI controller starts after the termination of the temperature limit with an I-component of zero. This option is suitable for fast control systems.

If no PI controller is used, this parameter is without function.

8.6.12.128 Temperature limiter - Temperature limit of cooling

Options:	No
	Yes

The parameter is used to activate or deactivate the temperature limit for the basic cooling stage.

**Notice**

This parameter is only available when the "Control function" parameter is set either on "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.129 Temperature limiter - Temperature limit of cooling - Limit temperature

Options:	Setting option between 20 - 100°C
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The parameter is used to set the limit temperature for the basic cooling stage. The temperature limit becomes active when the input temperatures are above the limit temperature.

8.6.12.130 Temperature limiter - Temperature limit of cooling - Hysteresis

Options:	Setting option between 0.5 - 5 K
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The parameter is used to set the hysteresis for the temperature limit of the basic cooling stage. At an active limit the temperature limit is deactivated again when the input temperatures are above the limit temperature plus hysteresis.

8.6.12.131 Temperature limiter - Temperature limit of cooling - Integral component of the PI controller

Options:	Keep
	Reset

The parameter is used to define the processing of the I-component of a PI controller for temperature limiting.

If the I-component is retained, this value is the starting point for continuing the PI controller after the termination of the temperature limit. This option is suitable for slow control systems.

If the I-component is reset, the PI controller starts after the termination of the temperature limit with an I-component of zero. This option is suitable for fast control systems.

If no PI controller is used, this parameter is without function.

8.6.12.132 Temperature limiter - Temperature limit of additional cooling stage

Options:	No
	Yes

The parameter is used to activate or deactivate the temperature limit for the additional cooling stage.

**Notice**

This parameter is only available when the "Control function" parameter is set either on "Cooling with additional stage," or "Heating and cooling with additional stages".

8.6.12.133 Temperature limiter - Temperature limit of additional cooling stage - Limit temperature

Options:	Setting option between 20 - 100°C
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The parameter is used to set the limit temperature for the basic additional cooling stage. The temperature limit becomes active when the input temperatures are above the limit temperature.

8.6.12.134 Temperature limiter - Temperature limit of additional cooling stage - Hysteresis

Options:	Setting option between 0.5 - 5 K
----------	----------------------------------

The parameter is used to set the hysteresis for the temperature limit of the additional cooling stage. At an active limit the temperature limit is deactivated again when the input temperatures are above the setpoint temperature plus hysteresis.

8.6.12.135 Temperature limiter - Temperature limit of additional cooling stage - Integral component of the PI controller

Options:	Keep
	Reset

The parameter is used to define the processing of the I-component of a PI controller for temperature limiting.

If the I-component is retained, this value is the starting point for continuing the PI controller after the termination of the temperature limit. This option is suitable for slow control systems.

If the I-component is reset, the PI controller starts after the termination of the temperature limit with an I-component of zero. This option is suitable for fast control systems.

If no PI controller is used, this parameter is without function.

8.6.12.136 Fan coil settings**Notice**

This parameter is only available if the "Device function" parameter is set on either "Single device" or "Master device" and the "Control value type" parameter is set on "Fan coil".

8.6.12.137 Fan coil settings - Number of fan devices

Options:	Heating/cooling via one system
	Heating/cooling via two systems

If fan coil devices have been set for heating and cooling, this parameter is used to set whether heating or cooling operation is carried out via the same device with fan control, or via two separate devices with separate fan activation.

8.6.12.138 Fan coil settings – Fan speed level data formats for Master-Slave

Options:	Counter values (e.g. 0 - 5)
	Percentage values

Here, for master-slave operation of operating units, it is set whether the setting of the manual fan speed level between master and slave device is carried out as counter value or percentage value. Master and slave devices must be set the same for the correct function.

8.6.12.139 Fan coil settings - Fan speed levels**Notice**

This parameter is only available if the "Device function" parameter is set on either "Single device" or "Master device" and the "Control value type" parameter is set on "Fan coil".

8.6.12.140 Fan coil settings - Fan speed levels — Number of fan speed levels

Options:	3 levels
	5 levels

This parameter is used to specify the number of fan speed levels the actuator will use to control the fan of the fan coil.

8.6.12.141 Fan coil settings - Fan speed levels - Format of the level output

Options:	0..5
	0..255
	1 bit m off n
	1 bit m 1 off n

- *0-5*: The level values (0-3 or 0-5) are output in the 1 byte format as counter values 0-3 or 0-5.
- *0-255*: The level values (0-3 or 0-5) are output as percentage values. Example 5-stage fan: The level value 1 is output as 20%, and 5 is output as 100%.
- *1 Bit 1 from n*: The level values (0-3 or 0-5) are output using 1-bit objects. The number of objects available is the same as the number of fan speed levels. For level 2, for example, the 1-bit fan speed level objects 1 and 2 are output as the value 1, while the other fan speed level objects use the value 0.
- *1 Bit 1 from n*: The level values (0-3 or 0-5) are output using 1-bit objects. The number of objects available is the same as the number of fan speed levels. For the level 2, for example, only the 1-bit fan speed level object 2 is output as the value 1. The other fan speed level objects use the value 0.

8.6.12.142 Fan coil settings - Fan speed levels - Level output

Options:	For manual operation and automatic
	Only for manual operation

This parameter is used to specify when the output of the fan speed level values will occur: either only when the fan speed levels are manually adjusted or also in automatic mode. This setting depends on the options for the fan coil actuator. If the actuator itself controls the fan speed levels in automatic mode based on a derivative of the control value, then the "Only for manual operation" option must be selected. Otherwise, the other option should be selected.

8.6.12.143 Fan coil settings - Fan speed levels - Lowest manually adjustable level

Options:	Speed level 0
	Speed level 1

This parameter is used to preselect the lowest fan speed level that can be set by an operation performed at the device. When level 0 is selected, the heating/cooling system will not be in operation (fan speed level and valve control 0) as long as the current operating mode and operation type are maintained. To avoid damage to the building, level 0 is deactivated after 18 hours and the device is returned to automatic mode.

8.6.12.144 Fan coil settings - Fan speed levels - Level status evaluation

Options:	No
	Yes

The controller obtains the current fan speed level for controlling a fan coil actuator either by calculating it from the table of level values under "Fan coil settings for heating" or "Fan coil settings for cooling," or by receiving feedback from the fan coil actuator. If the "Yes" option is selected, the "Fan coil step status" object is activated for receiving the fan speed level from the fan coil actuator.

8.6.12.145 Fan coil settings heating**Notice**

This parameter is only available if the "Device function" parameter is set on either "Single device" or "Master device" and the "Control value type" parameter is set on "Fan coil". In addition, the "Control function" parameter must be set on either "Heating," "Heating with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.146 Fan coil settings heating - Fan speed level values

Options:	Specify individually
	according to standard value table

For the calculation of the fan speed level from the control value or for the output of a percentage value for a specific fan speed level, the fan speed level value table is used. The standard value table is the table from the KNX specification. For a deviation the values can be specified individually.

8.6.12.147 Fan coil settings for heating - Speed level 1 to 5 up to control value (0 to 255) heating

Options:	Setting option between 0 - 255
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In this parameter, the control values of the controller are assigned to fan speed levels. This assignment is used if the fan speed levels are transmitted together with the control values.

**Notice**

- These level settings should be adjusted to match the settings in the fan coil actuator.
- Setting the "Control value type" to "Fan coil" in the control parameters is only useful for one of either the basic stage or the additional stage. Setting the basic and additional stage parameters to fan coil is not useful, since the control of only one fan coil actuator each for heating and cooling is supported.
- The "Fan speed level 4 - 5 up to control value (0 - 255) heating" parameters are available only when the "Number of fan speed levels" is set on "5 steps".

8.6.12.148 Fan coil settings for heating - Fan speed level limit heating for eco mode

Options:	No
	Yes

This parameter limits the fan speed level when the system is switched to eco mode.

8.6.12.149 Fan coil settings for heating - Maximum speed level heating for eco mode

Options:	Setting option between 0 - 5
----------	------------------------------

Specifies the maximum possible fan speed level when the system is switched to eco mode.

**Notice**

The parameter is only adjustable if the "Fan speed level limit heating in Eco mode" parameter is set on "Yes".

8.6.12.150 Fan coil settings for cooling**Notice**

This parameter is only available if the "Device function" parameter is set on either "Single device" or "Master device" and the "Control value type" parameter is set on "Fan coil". In addition, the "Control function" parameter must be set on either "Cooling," "Cooling with additional stage," "Heating and cooling" or "Heating and cooling with additional stages".

8.6.12.151 Fan coil settings cooling - Fan speed level values

Options:	Specify individually
	Specify individually

For the calculation of the fan speed level from the control value or for the output of a percentage value for a specific fan speed level, the fan speed level value table is used. The standard value table is the table from the KNX specification. For a deviation the values can be specified individually.

8.6.12.152 Fan coil settings for cooling - Speed level 1 to 5 up to control value (0 to 255) cooling

Options:	Setting option between 0 - 255
----------	--------------------------------

In this parameter, the control values of the controller are assigned to fan speed levels. This assignment is used if the fan speed levels are transmitted together with the control values.

**Notice**

- These level settings should be adjusted to match the settings in the fan coil actuator.
- Setting the "Control value type" to "Fan coil" in the control parameters is only useful for one of either the basic stage or the additional stage. Setting the basic and additional stage parameters to fan coil is not useful, since the control of only one fan coil actuator each for heating and cooling is supported.
- The "Fan speed level 4 - 5 up to control value (0 - 255) cooling" parameters are available only when the "Number of fan speed levels" is set on "5 steps".

8.6.12.153 Fan coil settings for cooling — Fan speed level limit cooling for ECO mode

Options:	No
	Yes

This parameter limits the fan speed level when the system is switched to eco mode.

8.6.12.154 Fan coil settings for cooling - Maximum fan speed level cooling for eco mode

Options:	Setting option between 0 - 5
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Specifies the maximum possible fan speed level when the system is switched to eco mode.

**Notice**

The parameter is only adjustable if the "Fan speed level limit cooling in Eco mode" parameter is set on "Yes".

8.6.12.155 Summer compensation**Notice**

Only available when the "Device function" parameter is set either on "Single device" or "Master device".

8.6.12.156 Summer compensation - Summer compensation

Options:	No
	Yes

In order to save energy, and to ensure that the temperature difference occurring during entry and exit of a climate-controlled building stays within comfortable limits, the excessive reduction of room temperature should be prevented during high temperatures in the summer (Summer compensation according to DIN 1946). The room temperature is increased by adjusting the setpoint temperature for cooling.

Raising the room temperature does not, however, mean that you heat up the room. Rather, the adjustment is intended to allow the room temperature to increase to a certain setpoint without cooling. This, for example, prevents the air-conditioning system from further reducing the room temperature to 24°C with an external temperature of 35°C.

However, activation of the summer compensation requires an outside temperature sensor that transmits its measured value to the bus and can be evaluated by the room temperature controller.

The following parameters are available for summer compensation:

- "Lower outside temperature value for summer compensation"
- "Upper outside temperature value for summer compensation"
- "Lower setpoint offset for summer compensation"
- "Upper setpoint offset for summer compensation"

Above the "upper outside temperature value," the minimum setpoint temperature for cooling is the outside temperature minus the "upper setpoint offset". The outside temperature has no effect on the minimum setpoint temperature for cooling below the "lower outside temperature value". Between the "Lower" and "Upper outside temperature value," the minimum setpoint temperature for cooling undergoes floating adjustment by the parameterised setpoint temperature equal to the outside temperature minus the "Lower offset" to a value equal to the outside temperature minus the "Upper setpoint offset" as a function of the outside temperature.

Typical values for summer compensation are:

- 21°C: lower outside temperature value
- 32°C: upper outside temperature value
- 0 K: lower setpoint offset
- 6 K: upper setpoint offset

This means that a continuous increase of the minimum setpoint value for cooling occurs to a value equal to the outside temperature minus a setpoint offset of 0 to 6 K if the outside temperature increases to 32°C from 21°C.

Example:

For an increasing outside temperature, the minimum setpoint value for cooling will be increased starting at an outside temperature of 21°C. The minimum setpoint temperature for cooling is 25.1°C at an outside temperature of 30°C; 25.5°C at an outside temperature of 31°C; 26°C at an outside temperature of 32°C; and 27°C at an outside temperature of 33°C.

8.6.12.157 Summer compensation - (Lower) Starting temperature for summer compensation (x 0.1°C)

Options:	Setting option between -127 - 127
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The parameter defines the lower outside temperature value up to which temperature value the setpoint correction (summer compensation) is performed based on too high an outside temperature.

**Notice**

This parameter is only available if the "Summer compensation" parameter is set to "Yes".

8.6.12.158 Summer compensation - Offset of the setpoint temperature for the entry into summer compensation (x 0.1°C)

Options:	Setting option between -127 - 127
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The parameter is used to define how many degrees Kelvin the setpoint value will be increased by during summer compensation when the lower temperature value is reached.

Typical values for summer compensation are:

- 20°C: lower outside temperature value
- 32°C: upper outside temperature value
- 0 K: lower setpoint offset
- 4 K: upper setpoint offset

That means that a flowing setpoint increase of 0 to 4 K occurs if the outside temperature increases from 20°C to 32°C.

**Notice**

This parameter is only available if the "Summer compensation" parameter is set to "Yes".

8.6.12.159 Summer compensation - (Upper) Exit temperature for summer compensation (x 0.1°C)

Options:	Setting option between -127 - 127
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The parameter defines the upper outside temperature value up to which temperature value the setpoint correction (summer compensation) is performed based on too high an outside temperature.

**Notice**

This parameter is only available if the "Summer compensation" parameter is set to "Yes".

8.6.12.160 Summer compensation - Offset of the setpoint temperature for the exit from summer compensation (x 0.1°C)

Options:	Setting option between -127 - 127
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The parameter is used to define how many degrees Kelvin the setpoint value will be increased by during summer compensation when the upper temperature value is reached.

Typical values for summer compensation are:

- 20°C: lower outside temperature value
- 32°C: upper outside temperature value
- 0 K: lower setpoint offset
- 4 K: upper setpoint offset

That means that a flowing setpoint increase of 0 to 4 K occurs if the outside temperature increases from 20°C to 32°C.



Notice

This parameter is only available if the "Summer compensation" parameter is set to "Yes".

8.6.13 Communication object room temperature controller

8.6.13.1 Status control value of basic heating stage

Name	Object function	Data type
Status control value of basic heating stage	Output	1.001 Switching 5.001 Percent (0..100%)

- The 1-bit communication object is used to operate a switching actuating drive, e.g. a thermoelectric actuating drive, that is controlled by a switching/heating actuator.
- The 1-byte communication object is used to control an actuating drive with a continuous input value (0%..100%), e.g. an electromotive actuating drive.

8.6.13.2 Status control value of additional heating stage

Name	Object function	Data type
Status control value of additional heating stage	Output	1.001 Switching 5.001 Percent (0..100%)

- The 1-bit communication object is used to operate a switching actuating drive, e.g. a thermoelectric actuating drive, that is controlled by a switching/heating actuator.
- The 1-byte communication object is used to control an actuating drive with a continuous input value (0%..100%), e.g. an electromotive actuating drive.



Notice

The additional stage can also be used as a parallel second heating stage. To do this, the parameter for the temperature difference to the basic stage must be set on 0°C.

8.6.13.3 Status control value of basic cooling stage

Name	Object function	Data type
Status control value of basic cooling stage	Output	1.001 Switching 5.001 Percent (0..100%)

- The 1-bit communication object is used to operate a switching actuating drive, e.g. a cooling ceiling, that is controlled by a switching/heating actuator.
- The 1-byte communication object is used to control an actuating drive with a continuous input value (0%..100%), e.g. an electromotive actuating drive.

8.6.13.4 Status control value of additional cooling stage

Name	Object function	Data type
Status control value of additional cooling stage	Output	1.001 Switching 5.001 Percent (0..100%)

- The 1-bit communication object is used to operate a switching actuating drive, e.g. a cooling ceiling, that is controlled by a switching/heating actuator.
- The 1-byte communication object is used to control an actuating drive with a continuous input value (0%..100%), e.g. an electromotive actuating drive.



Notice

The additional stage can also be used as a parallel second cooling stage. To do this, the parameter for the temperature difference to the basic stage must be set on 0°C.

8.6.13.5 Control On/Off

Name	Object function	Data type
Control On/Off	Output	1.001 Switching
Control On/Off (master)	Output	1.001 Switching
Control On/Off (slave)	Output	1.001 Switching

If a telegram with value "0" is received, the controller switches to Off mode and regulates the temperature to the setpoint value for frost/heat protection. When the controller is switched on again, the remaining operating mode communication objects are queried in order to determine the new operating mode. If the control of the temperature is switched on or off, the new status is signalled to the bus via this object.



Notice

When the master/slave operation is activated, the object "Control On/Off (master)" of the master device must be connected with object "Control On/Off (slave)" of the slave device.

8.6.13.6 Actual temperature

Name	Object function	Data type
Actual temperature	Output	9.001 Temperature value
Actual temperature weighted	Output	9.001 Temperature value

- Actual temperature:
 - The communication object outputs the measured (room) temperature, adjusted by the calibration value.
- Actual temperature weighted:
 - The communication object outputs the temperature value which is calculated from the recording and weighting of the internal temperature with up to two external temperatures.

8.6.13.7 External actual temperature

Name	Object function	Data type
External actual temperature	Entrance	9.001 Temperature value

The temperature value of an external temperature sensor is received via the 2-byte communication object.

**Notice**

An external temperature measurement for room temperature control may be practical for larger rooms and/or floor heating.

8.6.13.8 External actual temperature 2

Name	Object function	Data type
External actual temperature 2	Entrance	9.001 Temperature value

The temperature value of a second external temperature sensor is received via the 2-byte communication object.

**Notice**

An external temperature measurement for room temperature control may be practical for larger rooms and/or floor heating.

8.6.13.9 Fault, actual temperature

Name	Object function	Data type
Fault, actual temperature	Output	1.001 Switching
Fault, actual temperature (master)	Output	1.001 Switching
Fault, actual temperature (slave)	Output	1.001 Switching

If one of the parameterised input temperatures is unavailable to the controller for a period longer than the monitoring time, the controller enters the error mode. The device sends a telegram on the bus with value "1".

**Notice**

When the master/slave operation is activated, the object "Fault of actual temperature (master)" of the master device must be connected with object "Fault of actual temperature (slave)" of the slave device to display the faulty operation.

8.6.13.10 Actual setpoint

Name	Object function	Data type
Actual setpoint	Output	9.001 Temperature value

The communication object outputs the current setpoint temperature. The value results from the set setpoint temperature of the current operating mode, the manual setpoint temperature adjustment and a change in the basic setpoint temperature via the "Basic set value".

8.6.13.11 Normal operating mode

Name	Object function	Data type
Normal operating mode	On	20.102 HVAC mode
Normal operating mode (master)	On	20.102 HVAC mode
Normal operating mode (Slave)	On	20.102 HVAC mode

The value for the switchover of the operating mode is received via the 1-byte communication object. Meaning of values:

- "1": Comfort
- "2": Standby
- "3": Economy
- "4": Building protection

In addition to manual setpoint adjustment and the adjustment of the basic setpoint value, the setpoint temperature of the controller is defined by the following communication objects: (listed in decreasing order of priority).

- "Override operating mode"
- "Condensate water alarm"
- "Dew point alarm"
- "Window contact"
- "Control On/Off"
- "Presence detector"
- "Normal operating mode"

**Notice**

When the master/slave operation is activated, the object "Normal operating mode (master)" of the master device must be connected with object "Normal operating mode (slave)" of the slave device.

8.6.13.12 Superimposed operating mode

Name	Object function	Data type
Override operating mode	Entrance	20.102 HVAC mode
Override operating mode (Master/Slave)	Entrance	20.102 HVAC mode

The value for the switchover of the operating mode is received via the 1-byte communication object. Meaning of values:

- "0": Override operating mode inactive
- "1": Comfort
- "2": Standby
- "3": Economy
- "4": Building protection

In addition to manual setpoint adjustment and the adjustment of the basic setpoint value, the setpoint temperature of the controller is defined by the following communication objects: (listed in decreasing order of priority).

- "Override operating mode"
- "Condensate water alarm"
- "Dew point alarm"
- "Window contact"
- "Control On/Off"
- "Presence detector"
- "Normal operating mode"



Notice

When the master/slave operation is activated, the object "Override operating mode (master/slave)" of the master and slave device must be connected with the group address of the sending device.

8.6.13.13 Window contact

Name	Object function	Data type
Window contact	Entrance	1.001 Switching
Window contact (master/slave)	Entrance	1.001 Switching

The signal of a window contact is received via the 1-bit communication object. At an open window a telegram with value 1 is sent to the RTC.

If no other communication object with a higher priority is active, the RTC is set on the setpoint value for frost/heat protection by the message "Window open".

In addition to manual setpoint adjustment and the adjustment of the basic setpoint value, the setpoint temperature of the controller is defined by the following communication objects: (listed in decreasing order of priority).

- "Override operating mode"
- "Condensate water alarm"
- "Dew point alarm"
- "Window contact"
- "Control On/Off"
- "Presence detector"
- "Normal operating mode"



Notice

When the master/slave operation is activated, the object "Window contact (master/slave)" of the master and slave device must be connected with the group address of the sending device.

8.6.13.14 Presence detectors

Name	Object function	Data type
Presence detectors	Entrance	1.001 Switching
Presence detector (master/slave)	Entrance	1.001 Switching

The signal of a movement detector is received via the 1-bit communication object. If a person is present in the room, a telegram with value "1" is sent to the RTC.

If no other communication object with a higher priority is active, the RTC is set on the comfort setpoint value by the message "Person present in the room".

In addition to manual setpoint adjustment and the adjustment of the basic setpoint value, the setpoint temperature of the controller is defined by the following communication objects: (listed in decreasing order of priority).

- "Override operating mode"
- "Condensate water alarm"
- "Dew point alarm"
- "Window contact"
- "Control On/Off"
- "Presence detector"
- "Normal operating mode"



Notice

When the master/slave operation is activated, the object "Presence detector (master/slave) of the master and slave device must be connected with the group address of the sending device.

8.6.13.15 Heating status

Name	Object function	Data type
Heating status	Output	1.001 Switching

An On telegram is sent on the bus via the 1-bit communication object as soon as the RTC is in active heating mode.

If the controller is in cooling mode or in the inactive zone between heating and cooling, the RTC sends an OFF telegram via the "Heating status" object.

8.6.13.16 Cooling status

Name	Object function	Data type
Cooling status	Output	1.001 Switching

An On telegram is sent on the bus via the 1-bit communication object as soon as the RTC is in active cooling mode.

If the controller is in heating mode or in the inactive zone between heating and cooling, the RTC sends an OFF telegram via the "Cooling status" object.

8.6.13.17 Basic load

Name	Object function	Data type
Basic load	Entrance	1.001 Switching

A parameterized basic load can be activated via the 1-bit communication object. I.e. a minimum control value that is larger than zero is activated by sending value "1".

The basic load is deactivated by sending value "0". When the setpoint temperature is reached the control value can be reduced up to zero without taking the parameterized minimum value into account.

**Notice**

Deactivating the base load for a floor heating system is always useful in the summer, since it saves heating energy.

8.6.13.18 Heating/cooling switchover

Name	Object function	Data type
Heating/cooling switchover	1. Output	1.001 Switching
	2. Input	
	3. Input/output	

1. Automatic:
 - When the switchover between heating and cooling is carried out automatically by the RTC, the current status is sent to the bus via the communication object. Here the status "Heating" has value "1" and status "cooling" has value "0".
2. Only via object:
 - The switchover between heating and cooling is carried out in the RTC only via the communication object. Here the heating mode is activated with the receipt of value "1" and the cooling mode with value "0".
3. On-site/via extension unit and via object:
 - Switching between heating and cooling on the room temperature controller occurs in the RTC by user interaction or via the communication object. The current status is sent to the bus or received via the object. Here the status "Heating" has value "1" and status "cooling" has value "0".

8.6.13.19 Fan manual (heating)

Name	Object function	Data type
Fan manual	Output	1.001 Switching
Fan manual (master)	Output	1.001 Switching
Fan manual (slave)	Output	1.001 Switching

Using the 1-bit communication object, a fan coil actuator can be placed in manual fan mode or returned to automatic fan mode. In the automatic fan mode of the fan coil actuator, the fan's rotational speed is defined in the fan coil actuator using the control value. In manual fan operation, the user of the RTC can set the fan's rotational speed as needed. This setting will remain active until it is reset. The fan speed level 0 is an exception: to avoid damage to the building, automatic mode is activated again 18 hours after fan speed level 0 is selected.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator heating.



Notice

When the master/slave operation is activated, the object "Fan manual (master)" of the master device must be connected with object "Fan manual (slave)" of the slave device.

8.6.13.20 Fan speed level (heating)

Name	Object function	Data type
Fan speed level	Output	5.001 Percent (0..100%) 6.010 Counter value
Fan speed level (master)	Output	5.001 Percent (0..100%) 6.010 Counter value
Fan speed level (slave)	Output	5.001 Percent (0..100%) 6.010 Counter value

The fan speed level in the fan coil actuator is selected via the 8-bit communication object.

The fan speed levels are sent to the bus as percentage values. Example 5-stage fan: The level value 1 is output as 20%, and 5 is output as 100%. The setting of the levels can also be made optionally as counter values, in this example 0..5.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator heating.



Notice

When the master/slave operation is activated, the object "Fan speed level (master)" of the master device must be connected with object "Fan speed level (slave)" of the slave device.

8.6.13.21 Fan speed level status (heating)

Name	Object function	Data type
Fan speed level status (heating)	Entrance	5.001 Percent (0..100%) 6.010 Counter value

The RTC receives the currently set fan speed level of the fan coil actuator via the 8-bit communication object.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator heating.

8.6.13.22 Heating fan speed level 1 - 5

Name	Object function	Data type
Fan speed level x	Output	1.001 Switching

The controller uses this 1-bit communication object to send a switching signal to the bus. If fan speed level x is activated, value "1" is sent. If fan speed level (1 .. 5) is deactivated, value "0" is sent.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator heating.

8.6.13.23 Basic setpoint

Name	Object function	Data type
Basic setpoint	Entrance	9.001 Temperature value

This 2-byte communication object can be used to change the parameterised basic setpoint value of the RTC. The parameter "Basic setpoint" is used to specify the set value the device accesses. The following can be selected:

- "Setpoint for heating comfort"
- "Setpoint for cooling comfort"
- "Mean value between heating comfort and cooling comfort"

8.6.13.24 Resetting manual setpoints

Name	Object function	Data type
Resetting manual setpoints	Entrance	1.001 Switching

This 1-bit communication object is used to reset the manual setpoint adjustment that was set on the device.

8.6.13.25 Dew point alarm

Name	Object function	Data type
Dew point alarm	Entrance	1.001 Switching

A dew point detector signals the occurrence of dew formation, e.g. on the cooling medium feed lines of a cooling machine. The 1-bit communication object is used to set the controller into the dew point protection mode. This causes the current setpoint to be set on the heat protection setpoint in order to prevent the formation of water.



Notice

This protective mechanism is only active in the cooling mode. It remains in place until it is cancelled by the value "0". When an alarm is active, manual operation of the controller is blocked. The information is displayed by a corresponding icon on the control unit.

8.6.13.26 Condensate water alarm

Name	Object function	Data type
Condensate water alarm	Entrance	1.001 Switching
Condensate water alarm (master/slave)	Entrance	1.001 Switching

The 1-bit communication object is used to set the controller into the condensation protection mode. This causes the current setpoint to be set on a value that cannot be reached, which prevents the condensate collection container from overflowing.

This protective mechanism is only active in the cooling mode. It remains in place until it is cancelled by the value "0". When an alarm is active, manual operation of the controller is blocked. The information is displayed by a corresponding icon on the device.



Notice

When the master/slave operation is activated, the object "Condensate water alarm (master/slave)" of the master and slave device must be connected with the alarm transmitter.

8.6.13.27 Outside temperature for summer compensation

Name	Object function	Data type
Outside temperature for summer compensation	Entrance	9.001 Temperature value

In order to save energy, and to ensure that the temperature difference occurring during entry and exit of a climate-controlled building stays within comfortable limits, the reduction of room temperature by cooling devices should be limited as a function dependent on the outside temperature (summer compensation). This, for example, prevents the air-conditioning system from running continuously when the outside temperature is 35°C in order to reduce the room temperature to 22°C.

An open air temperature sensor is required for this application. For this the current outside temperature must be made available to the controller via the 2-byte communication object.

8.6.13.28 Summer compensation active

Name	Object function	Data type
Summer compensation active	Output	1.001 Switching

The controller uses this 1-bit communication object to send a switching signal to the bus. If summer compensation is active, value "1" is sent. If summer compensation is not active, value "0" is sent.

If summer compensation is active, the set setpoint temperature for cooling operation is raised in dependence of the outside temperature. A decrease of the cooling mode setpoint temperature below the value calculated by the summer compensation function is not possible. An increase of the setpoint temperature for the cooling mode is always possible.

8.6.13.29 Temperature calibration

Name	Object function	Data type
Temperature calibration	Entrance	9.001 Temperature value 9.002 Differential temperature value

The temperature measured locally in the device can be calibrated via the 2-byte temperature value. It can be set whether the calibration is performed as new temperature value or as differential value to the currently measured temperature.

8.6.13.30 On/off request

Name	Object function	Data type
On/off request (master)	Entrance	1.001 Switching
On/off request (slave)	Output	1.001 Switching

The 1-bit switching object is used to transmit the switch-on/off request of the button operation of a slave device to the master device. The confirmation is made via object "Control On/Off".

**Notice**

When the master/slave operation is activated, the object "On/Off request (master)" of the master device for synchronisation must be connected with object "On/Off request (slave)" of the slave device.

8.6.13.31 Setpoint display

Name	Object function	Data type
Set value display (master)	Output	9.001 Temperature value 9.002 Differential temperature value
Set value display (slave)	Entrance	9.001 Temperature value 9.002 Differential temperature value

The actual setpoint for showing in the display is sent or received via the 2-byte communication object. Depending on the parameter setting of the master device, this is an absolute temperature value or a differential value (e.g. -5 K - +5 K).



Notice

When the master/slave operation is activated, the object "Setpoint display (master)" of the master device for synchronisation must be connected with object "Setpoint display (slave)" of the slave device.

8.6.13.32 Request set value (master)

Name	Object function	Data type
Request set value (master)	Entrance	9.001 Temperature value 9.002 Differential temperature value 6.010 Counter value
Request set value (slave)	Output	9.001 Temperature value 9.002 Differential temperature value 6.010 Counter value

The communication object is used to transmit the setpoint request of the button operation of a slave device to the master device. The format can be an absolute or relative temperature value or a counter value which is multiplied with an adjustable step size (standard value 0.5 K). The confirmation is made via object "Confirm setpoint".



Notice

When the master/slave operation is activated, the object "Request setpoint (master)" of the master device for synchronisation must be connected with object "Request setpoint (slave)" of the slave device.

8.6.13.33 Confirm setpoint

Name	Object function	Data type
Confirm setpoint (master)	Output	9.001 Temperature value 9.002 Differential temperature value 6.010 Counter value
Confirm set value (slave)	Entrance	9.001 Temperature value 9.002 Differential temperature value 6.010 Counter value

The communication object is used to transmit the setpoint confirmation of the master device to a slave device. The format can be an absolute or relative temperature value or a counter value which is multiplied with an adjustable step size (standard value 0.5 K). This value the slave device adopts as starting point for a further setpoint adjustment.



Notice

When the master/slave operation is activated, the object "Confirm setpoint (master)" of the master device for synchronisation must be connected with object "Confirm setpoint (slave)" of the slave device.

8.6.13.34 Heating/cooling request

Name	Object function	Data type
Heating/cooling request (Master)	Entrance	1.100 Heating / Cooling
Heating/cooling request (Slave)	Output	1.100 Heating / Cooling

The communication object is used to transmit the heating/cooling switchover request of the button operation of a slave device to the master device. The confirmation is made via object "Heating/cooling switchover".



Notice

When the master/slave operation is activated, the object "Heating/cooling request (master)" of the master device for synchronisation must be connected with object "Heating/cooling request (slave)" of the slave device.

8.6.13.35 Request fan speed level manually

Name	Object function	Data type
Request fan speed level manually (Master)	Entrance	1.001 Switching
Request fan speed level manually (Slave)	Output	1.001 Switching

The communication object is used to transmit the request of the manual or automatic fan speed level control of a slave device to the master device. This means that value 0 "Automatic fan speed level control", the value 1 "Manual fan speed level control"

**Notice**

When the master/slave operation is activated, the object "Request manual fan speed level (master)" of the master device for synchronisation must be connected with object "Request manual fan speed level (slave)" of the slave device.

8.6.13.36 Request fan speed level

Name	Object function	Data type
Request fan speed level (Master)	Entrance	5.001 Percentage value 6.010 Counter value
Request fan speed level (Slave)	Output	5.001 Percentage value 6.010 Counter value

The communication object is used to transmit the request of a fan speed level via the button operation of a slave device to the master device. The values can be transmitted as percentage values or counter values.

**Notice**

When the master/slave operation is activated, the object "Request fan speed level (master)" of the master device for synchronisation must be connected with object "Request fan speed level (slave)" of the slave device.

8.6.13.37 Confirm fan speed level

Name	Object function	Data type
Confirm fan speed level (Master)	Output	5.001 Percentage value 6.010 Counter value
Confirm fan speed level (Slave)	Entrance	5.001 Percentage value 6.010 Counter value

The communication object is used to transmit the fan speed level confirmation of the master device to a slave device. The values can be transmitted as percentage values or counter values.

**Notice**

When the master/slave operation is activated, the object "Confirm fan speed level (master)" of the master device for synchronisation must be connected with object "Confirm fan speed level (slave)" of the slave device.

8.6.13.38 Controller status RHCC

Name	Object function	Data type
Controller status RHCC	Output	9.* 2-byte floating point value

The status of the RHCC (Room Heating Cooling Controller) is sent to the bus via the communication object.

- Operating mode heating/cooling
- Operation active/passive
- Frost alarm
 - If the input temperature of the controller drops below the set temperature, then the frost alarm bit is set. The bit is reset when the temperature is exceeded.
- Heat alarm
 - If the input temperature of the controller exceeds the temperature set in the parameter, then the heat alarm bit is set. If the temperature drops below its setting, the bit is reset.
- Error
 - If the actual temperature cannot be received, the error bit is set.

8.6.13.39 Controller status HVAC

Name	Object function	Data type
Controller status HVAC	Output	5.xxx HVAC status
Controller status HVAC (master)	Output	5.xxx HVAC status
Controller status HVAC (slave)	Entrance	5.xxx HVAC status

The status of the HVAC (Heating, Ventilation, and Air Conditioning) is sent to the bus via the communication object.

- Operating mode heating/cooling
- Operation active/passive
- Frost alarm
 - If the input temperature of the controller drops below the temperature in the parameter, the frost alarm bit is set. The bit is reset when the temperature is exceeded.
- Dew point alarm
 - When value 1 is received via object "Dew point alarm", the dew point alarm bit is set.

**Notice**

When the master/slave operation is activated, the object "RTC: Controller status (master)" of the master device for synchronisation must be connected with object "RTC: Controller status (slave)" of the slave device.

8.6.13.40 Setpoint for heating comfort

Name	Object function	Data type
Setpoint for heating comfort	Entrance	9.001 Temperature value

The RTC receives a setpoint heating comfort as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.41 Setpoint for heating standby

Name	Object function	Data type
Setpoint for heating standby	Entrance	9.001 Temperature value

The RTC receives a setpoint heating standby as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.42 Cooling setpoint economy

Name	Object function	Data type
Cooling setpoint economy	Entrance	9.001 Temperature value

The RTC receives a setpoint cooling economy as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.43 Heating setpoint for building protection

Name	Object function	Data type
Heating setpoint for building protection	Entrance	9.001 Temperature value

The RTC receives a setpoint heating building protection as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.44 Setpoint for cooling comfort

Name	Object function	Data type
Setpoint for cooling comfort	Entrance	9.001 Temperature value

The RTC receives a setpoint cooling comfort as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.45 Setpoint for cooling standby

Name	Object function	Data type
Setpoint for cooling standby	Entrance	9.001 Temperature value

The RTC receives a setpoint cooling standby as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.46 Cooling setpoint economy

Name	Object function	Data type
Cooling setpoint economy	Entrance	9.001 Temperature value

The RTC receives a setpoint cooling economy as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.47 Cooling setpoint for building protection

Name	Object function	Data type
Cooling setpoint for building protection	Entrance	9.001 Temperature value

The RTC receives a setpoint cooling building protection as absolute temperature value via the communication object, which replaces the parameterized value. When option "Save local operation continuously" has been activated, the setting is retained also after a restart of the device. If the option has not been set, the value parameterized with the ETS becomes active again after a restart of the device.

8.6.13.48 Setpoint error

Name	Object function	Data type
Setpoint error	Output	1.001 Switching

The RTC sends value 1 via the communication object when a setpoint telegram has been received, the value of which is invalid. If a telegram with a valid value is received, it takes on value zero. The telegram is sent when its value changes.

Invalid temperature values are those that require a higher energy level than comfort mode or in validate the temperature range for heating and cooling. Example: For a temperature value of 21°C for heating comfort, values for heating standby higher than 21°C are not permitted. Or. For a temperature value of 21°C for heating comfort, values for cooling comfort smaller than 22°C (21°C + 1 K safety distance between heating and cooling) are not permitted.

8.6.13.49 Limit temperature basic heating stage

Name	Object function	Data type
Limit temperature basic heating stage	Entrance	9.001 Temperature value

The communication object receives the measured temperature value for the limit temperature of the basic heating stage. If, for example, the basic heating stage controls the floor heating, then the floor temperature is received via this communication object. If the temperature received exceeds the limit value, the control value is set on zero.

8.6.13.50 Limit temperature additional heating stage

Name	Object function	Data type
Limit temperature additional heating stage	Entrance	9.001 Temperature value

The communication object receives the measured temperature value for the limit temperature of the additional heating stage. If, for example, the basic heating stage controls the floor heating, then the floor temperature is received via this communication object. If the temperature received exceeds the limit value, the control value is set on zero.

8.6.13.51 Limit temperature basic cooling stage

Name	Object function	Data type
Limit temperature basic cooling stage	Entrance	9.001 Temperature value

The communication object receives the measured temperature value for the limit temperature of the basic cooling stage. The function is analogue to the heating limit temperature.

8.6.13.52 Limit temperature additional cooling stage

Name	Object function	Data type
Limit temperature additional cooling stage	Entrance	9.001 Temperature value

The communication object receives the measured temperature value for the limit temperature of the additional cooling stage. The function is analogue to the heating limit temperature.

8.6.13.53 Confirm fan (cooling) manually

Name	Object function	Data type
Confirm fan (cooling) manually	Output	1.001 Switching

The communication object signals the status of the second fan output (cooling) manually/automatic to the bus. Manual mode is signalled with value 1, automatic mode with value 0.

8.6.13.54 Fan speed level (cooling)

Name	Object function	Data type
Fan speed level (cooling)	Output	5.001 Percentage value 6.010 Counter value

The fan speed level to be set is sent to the second fan coil actuator (cooling) via the communication object. The parameter can be used to set whether the fan speed level is sent only in manual or also in automatic mode. A counter value or a percentage value can be set as data format.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator cooling.

8.6.13.55 Fan speed level status (cooling)

Name	Object function	Data type
Fan speed level status (cooling)	Entrance	5.001 Percentage value 6.010 Counter value

The communication object receives the current fan speed level of the second fan coil actuator (cooling). This the RTC uses for the display of the fan speed level and as starting point for its adjustment. The speed level in the RTC is determined as standard from the current control value or the manual adjustment.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator cooling.

8.6.13.56 Fan speed level x (cooling)

Name	Object function	Data type
Fan speed level x (cooling)	Output	1.001 Switching

These up to five communication objects send the current fan speed level of the second fan coil actuator (cooling) via 1-bit switching commands to the actuator.

If a fan coil regulator is set for both operating modes of heating and cooling and an own generating device is set for both operating modes, this communication object then operates jointly with fan coil regulator cooling.

8.6.13.57 Current HVAC operating mode

Name	Object function	Data type
Current HVAC operating mode	Output	20.102 HVAC mode

The RTC uses this communication object to send the operating mode that belongs to the currently set setpoint temperature.

RTC operating mode	Current HVAC operating mode
Error	Building protection
Comfort override operating mode	Comfort
Standby override operating mode	Standby
Economy: Override operating mode	Economy
Building protection override operating mode	Building protection
Condensate water alarm	Building protection
Dew point alarm	Building protection
Window open	Building protection
Control OFF	Building protection
Presence	Comfort
Comfort	Comfort
Standby	Standby
Economy	Economy
Building protection	Building protection

Table 5: Operating mode

8.6.14 Assigning a project to a device

Several projects can be created. However, only one project can be used in the one device. This means that one project is to be assigned to a device. This is carried out via the "Project in device" function. All available projects can be selected from the options list. Access is gained via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The function is called up via the "Device" tab.

8.6.15 Copy project

Each project with all its data can be copied. The advantage is that one can take over a project for which one wants to make only a few adjustments for a different end customer, for example.

1. Select the project you wish to copy in the right menu column.

The project opens.

2. Tap on the copy icon in the top right.

The project is copied and indicated in the menu column with [duplicated].

8.6.16 Delete project

Each project can also be deleted.

1. Select the project you wish to delete in the menu column.

The project opens.

2. Tap on the rubbish bin icon.
3. Confirm the message.

The project is deleted.

8.6.17 Project backup

Projects can be secured with a backup.

1. Select the project you wish to back up in the menu column.

The project opens.

2. Tap the cloud symbol (with plus).

The project is backed up.



Note

- Backed-up projects are stored in the "Backup" menu (see the menu column).
- A backed-up project cannot be edited.

8.6.18 Restoring a backup project

It is possible to restore a backup.

1. Select the "Backup" menu from the menu column. Then the desired backup must be selected.
2. Tap on the cloud symbol (with the arrow).

The project is copied back to the normal list.

**Note**

The backup can also be deleted from the menu.

8.6.19 Exporting a project (export function)

Projects can now be exported to a file and downloaded.

1. Select the project to be exported from the menu column.

The project opens.

2. Tap the download symbol.
3. Select a save location.

The project is downloaded.

8.6.20 Importing a project (import function)

The user can load (exported) project files into the menu.

1. Select the function "Import Project from File" from the menu column.
2. Then the desired project file can be selected.
3. Then tap "Open".

The project is loaded to the menu.

8.7 Creating a profile

The profile includes the form of the visualization (user interface) for smartphones and tablets for operating the building automation system via the Busch-ControlTouch®. The visualization is enabled for the device and assigned to it during the transmission of the profile to a Busch-ControlTouch®.

Each profile has a collection of pages. This means that each profile has a start page (navigation page) and generally several follow-on pages. These can be differentiated in further menu pages and follow-on control pages. This means that navigation pages consist of page links on the control pages. The control pages are equipped with actions (commands), which can be selected on the relevant page. This, for example, creates a page for each room. The pages therefore are the different visualization interfaces which serve for the control and operation of the profile.

A standard profile is automatically created when the device is registered. This can then be edited further. The basic settings of the profile determine the general appearance (such as background colour) of the pages.

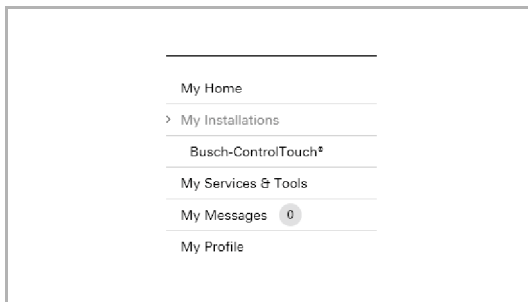


NOTE

Please note that when adjusting an existing profile, or when an additional profile is to be created, access must always take place via MyBuildings . Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Devices" tab.

8.7.1 Opening the configuration page

Open the MyBuildings page and log yourself in.



1. Click on "My installations"
2. Click on "Busch-ControlTouch"

Fig. 46: My installations

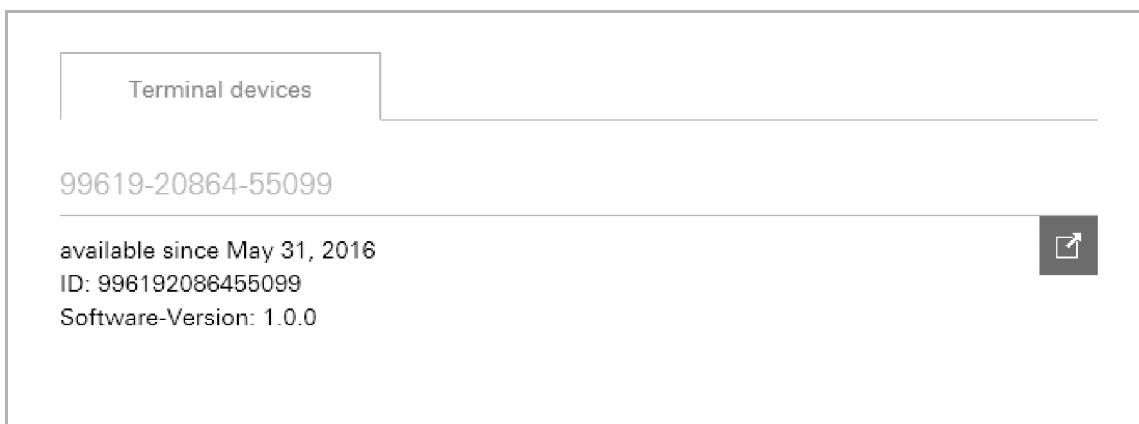


Fig. 47: Terminal devices

The available terminal devices are displayed.



3. Click on the icon.

Fig. 48: Icon

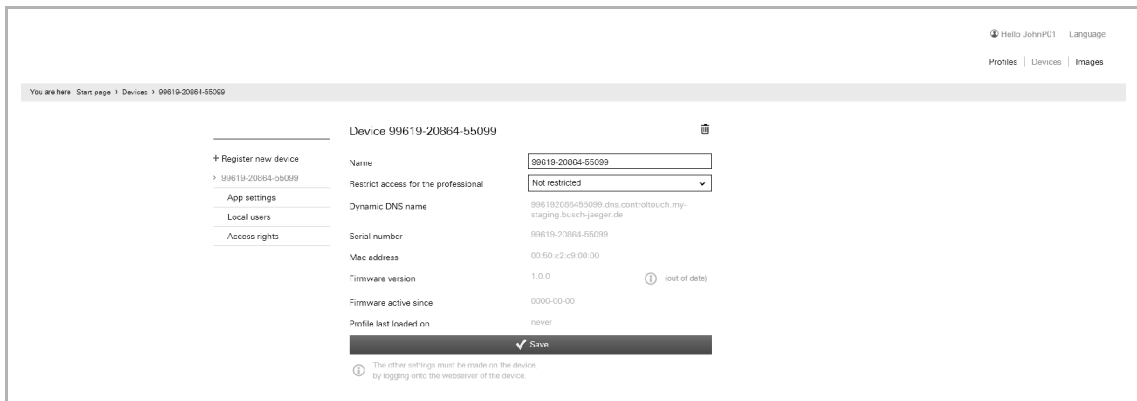


Fig. 49: Configuration page

The configuration page is displayed.



Notice

The user can archive devices and projects by clicking on the archiving function (arrow pointing to archive). This moves the device or project to "Archive" in the menu bar. They will no longer be displayed in the list. Archived devices and projects can still be edited by simply selecting the object under "Archive". The object can then be restored by clicking the archiving function (arrow pointing away from archive).

- The archiving of the device by an expert includes all of the associated projects as well.
- The archiving of the device by an end user includes all of the associated profiles as well.

8.7.2 Call-up of standard profile

1. Tap on "Profiles".

The standard profile opens.

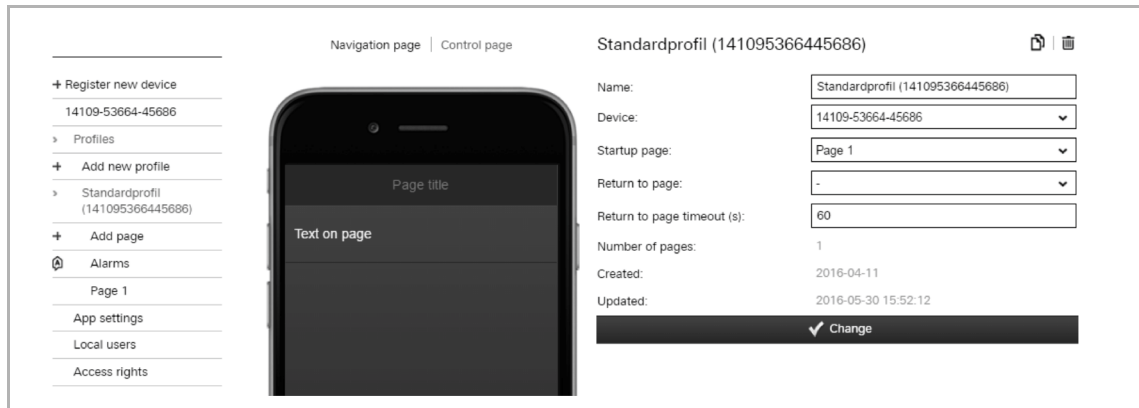


Fig. 50: Profile input field

You can now continue to edit the standard profile directly or create a copy (see chapter "Copy profile" on page 180) which can then be edited.

2. Enter a new name for the profile. The following selections can be made:

- Other device if several devices are available.
- Which page is to be the start page on a terminal device after the app has been started (pages must be created beforehand!). If nothing is specified here, then the page which was displayed last is always opened after the app is started.
- Back to the page: (this page is called up automatically after time-out has expired) (pages must be created beforehand!).
- Back to the time-out page (s): after the set time the page that was entered under "Back to the page" is automatically called up.



NOTE

The other fields merely serve for information!

3. Then, click/tap on the "Adjust" button.

The adjusted specifications about the profile are saved.

4. Now carry out further adjustments for the project.

Follow the details in the following sub-chapters.



NOTE

Often it is easier to first select a profile that is similar to the profile to be created. This can then be copied (see chapter "Copy profile" on page 180), with which a complete copy of the profile is prepared. This copy can then be adjusted.

The entry "Extended options" is only available if the fitter has enabled this option under "Devices"!

The standard page settings can be adjusted for the navigation and control pages. Here the colours of different components of the pages can be adjusted.



NOTE

The individual options must be activated so that the adjustments can be transmitted. The colour values can be easily adjusted with entries in the input fields. They are taken over immediately by tapping on the "Adjust" button. The adjustments can then be checked immediately in the image of the iPhone.

The adjustments made here generally apply to all navigation and control pages. However, also individual adjustments can be made for the individual pages (see chapter "Copy profile" on page 180).

- Background colour: Adjustment of the background colour for the entire page (without title block)
- Background colour gradient: Adjustment of the basic colour of the background colour gradient for the entire page (without title block)
- Text colour: Adjustment of text colour on the entire page (without title block)
Here a subdivision is made in
 - Text colour 1 (Text on the page + general buttons)
 - Text colour 2 (Text on function buttons of the page).

Notice:
If the user specifies text colour 2 manually, this colour is then also used for designating the function buttons.
Examples:

 - Up/down buttons for blinds
 - Plus/minus buttons for temperature controller (or other controllers with plus/minus)
 - Icons not selected for thermostat mode
- Separator colour: Adjustment of parting line between page contents (text blocks)
- Title foreground colour: Adjustment of text colour of page title (only title block)
- Title background colour: Adjustment of the background colour for the title block (only title block)

8.7.3 Create new profile

The procedure is as listed under item "Call up (standard) profile". However, here menu item "Add new profile" is called up.

Then a new profile (similar to "Standard profile") is added, which is listed in the menu column. This can then be adjusted normally.



NOTE

Often it is easier to first select a profile that is similar to the profile to be created. This can then be copied (see chapter "Copy profile" on page 180), with which a complete copy of the profile is prepared. This copy can then be adjusted.

8.7.4 Copy profile

Each profile with all its data can be copied. The advantage is that one can take over a profile for which one wants to make only a few adjustments for a different end customer, for example.

1. Select the profile you wish to copy in the menu column.

The profile opens.

2. Tap on the copy icon in the top right.
3. The profile is copied and indicated in the menu column with [duplicated].

8.7.5 Delete profile

Each profile can also be deleted.

1. Select the profile you wish to delete in the right menu column.

The profile opens.

2. Tap on the rubbish bin icon.
3. Confirm the message.

The profile is deleted.

8.7.6 Profile backup

Profiles can be secured with a backup.

1. Select the profile you wish to back up in the menu column.

The profile opens.

2. Tap the cloud symbol (with plus).

The profile is backed up.



Note

Backed-up profiles are stored in the "Backup" menu (see the menu column).

8.7.7 Restoring a backup profile

It is possible to restore a backup.

1. Select the "Backup" menu from the menu column. Then the desired backup must be selected.
2. Tap on the cloud symbol (with the arrow).

The profile is copied back to the normal list.

**Note**

The backup can also be deleted from the menu.

8.7.8 Exporting a profile (export function)

Profiles can now be exported to a file and downloaded.

1. Select the profile to be exported from the menu column.

The profile opens.

2. Tap the download symbol.
3. Select a save location.

The profile is downloaded.

8.7.9 Importing a profile (import function)

The user can load (exported) profile files into the menu.

1. Select the function "Import Profile from File" from the menu column.
2. Then the desired profile file can be selected.
3. Then tap "Open".

The profile is loaded to the menu.

8.7.10 Blocking a profile (blocking function)

A specialist can protect a profile from changes. By clicking on the lock symbol, the profile is protected from changes by the end user and the expert. The end user cannot unblock the profile; this is only possible by experts.

**Note**

However, any user can copy the profile and then modify this copy.

1. Use the access point for specialists.
2. Select the profile you wish to block in the menu column.

The profile opens.

3. Tap the lock symbol (open). The profile is now blocked.

**Note**

In order to unblock the blocked profile, open it as described above and repeat the process. The lock symbol is now closed.

8.7.11 Creation of pages

Every page can be designed individually. The creation of a navigation page differentiates itself from the creation of a control page or room-view page only in that a selection for the page type must be made. This determines which general profile settings are displayed for the page (see chapter 8.4.2 "Initial commissioning of device (direct access) " on page 35), the background colour, for example. However, this can also be specified individually for every page. The navigation pages generally include page links on the control pages or room-view pages. The control pages and room-view pages on the other hand are equipped with actions (commands), which can be selected on the relevant page. This, for example, creates a control page for each room or room-view page. Control pages and room-view pages fulfil the same function and differ only in the presentation. The control page presents actions in a list view. The room-view page presents actions within a room image with freely placable control elements (e.g. switches and blinds).

A standard page is set up automatically when a profile is created. This can then be edited further.

8.7.11.1 Call-up of standard page

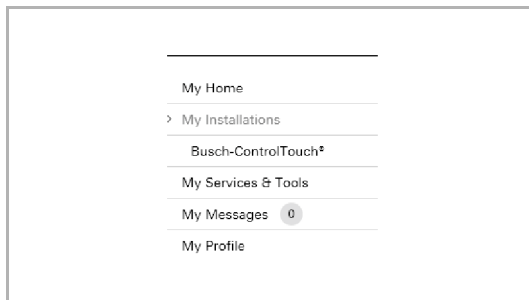


NOTE

Please note that when adjusting an existing page, or when an additional page is to be created, access must always take place via MyBuildings. Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Devices" tab.

8.7.11.2 Opening the configuration page

Open the MyBuildings page and log yourself in.



1. Click on "My installations"
2. Click on "Busch-ControlTouch"

Fig. 51: My installations



Fig. 52: Terminal devices

The available terminal devices are displayed.



3. Click on the icon.

Fig. 53: Icon

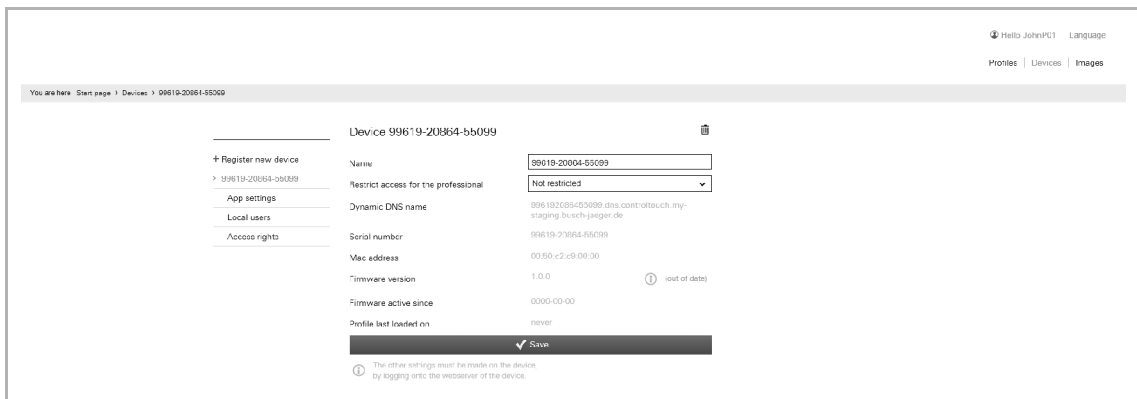


Fig. 54: Configuration page

The configuration page is displayed.



Notice

The user can archive devices and projects by clicking on the archiving function (arrow pointing to archive). This moves the device or project to "Archive" in the menu bar. They will no longer be displayed in the list. Archived devices and projects can still be edited by simply selecting the object under "Archive". The object can then be restored by clicking the archiving function (arrow pointing away from archive).

- The archiving of the device by an expert includes all of the associated projects as well.
- The archiving of the device by an end user includes all of the associated profiles as well.



Notice

First a profile must be created see chapter 8.4.2 "Initial commissioning of device (direct access)" on page 35.

1. Tap on the corresponding profile.

The profile opens.

A "Page 1" is created automatically.

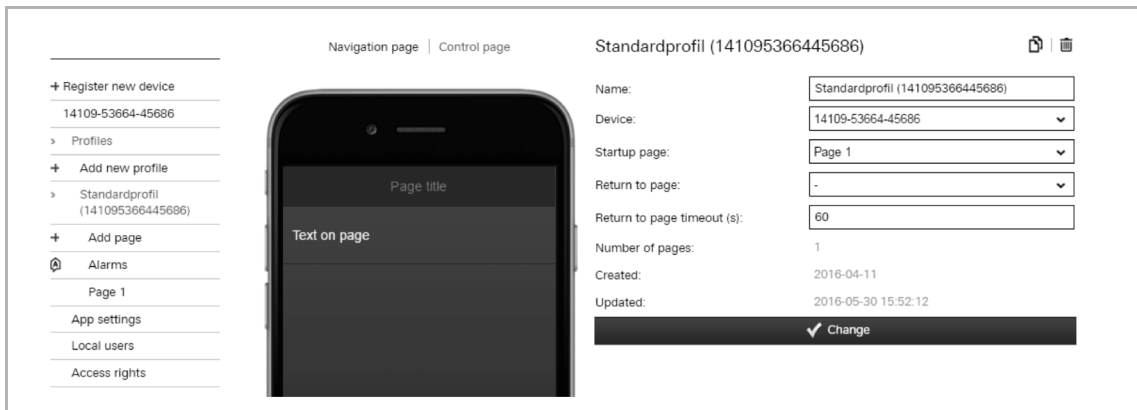


Fig. 55: Profile input field

2. Tap on entry "Page 1".

The page opens.

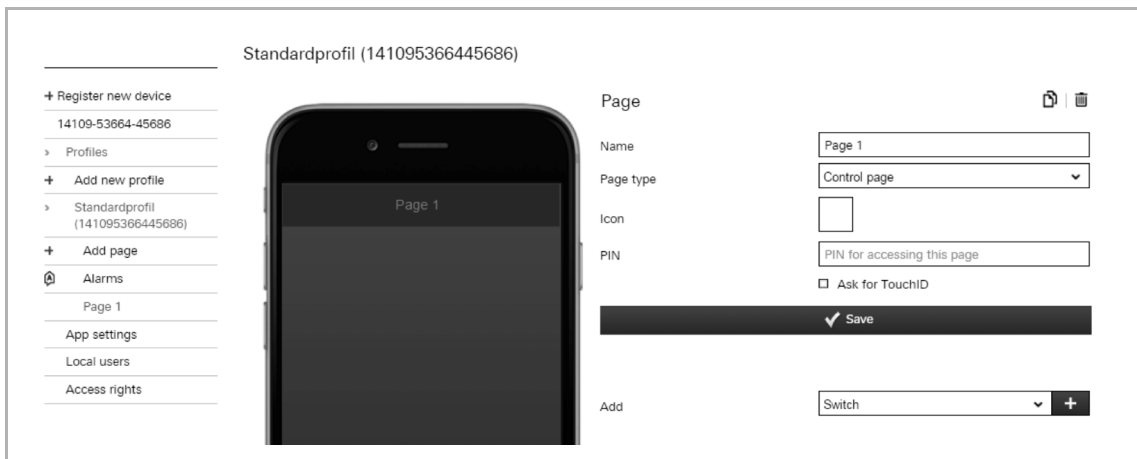


Fig. 56: Page 1 input field

3. You can now continue to edit this standard page directly or create a copy (see chapter 8.7.15 "Copy pages" on page 231) which can then be edited.

4. Enter a new name for the page (e.g. room name for a control page).

This will be displayed directly on the page and in each link to this page.

5. Specify whether this is a navigation page or a control page or a room-view page.



Notice

For the creation of a room-view page, see chapter 8.7.11.4 "Room view" on page 188.

6. If desired, select an icon for this page.

In case of a page link, this icon would then be displayed on the menu page.



Notice

Selection of individual icons:

There is also the option of taking up one's own icons (pictures) into the selection. For this the fitter can add one's own pictures via the "Pictures" tab. The tab (function) is only available if the fitter has enabled the option "Extended functions" under "Devices". The pictures can then be selected and loaded via the "Add pictures" button.

7. You can stipulate for each page that it is protected by a PIN. An appropriate PIN can be specified in the input field.

The PIN is then requested when the page is called up.

8. Also the function "Request TouchID" can be activated. This is practical only if your mobile terminal device supports this function.
9. Now different profile(page) elements (actions or page links) can be added to the page via the "Add" function. For this an element is selected in the options list.
10. Then tap on "+" to add the element.

It will then be displayed in the image of the iPhone.



Notice

- The Chapter 8.7.12 "Listing of profile(page) elements (actions) " on page 192 lists the current profile(pages) elements with the setting options. Click/tap on the element in the image of the iPhone. The setting options for the element will be displayed.
- The order of the profile(page) elements can be adjusted later. Shift the elements in the image of the iPhone via drag and drop.

11. Finally, click/tap on the "Save" button.

The adjusted specifications for the page are saved.



Notice

Often it is easier to first select the page that is similar to the page to be created. This can then be copied (see chapter 8.7.15 "Copy pages " on page 231), with which a complete copy of the page is prepared. This copy can then be adjusted.

The entry "Extended options" is only available if the fitter has enabled this option under "Devices"!

The page settings can be adjusted individually. Here the colours of different components of the pages can be adjusted. Otherwise the general page settings for the navigation and control pages will be taken over from the profile.



NOTE

The individual options must be activated so that the adjustments can be transmitted. The colour values can be easily adjusted with entries in the input fields. They are taken over immediately by tapping on the "Adjust" button. The adjustments can then be checked immediately in the image of the iPhone. The adjustments made here apply individually only to the edited page!

- Background colour: Adjustment of the background colour for the entire page (without title block)
- Background colour gradient: Adjustment of the basic colour of the background colour gradient for the entire page (without title block)
- Text colour: Adjustment of text colour on the entire page (without title block)
Here a subdivision is made in
 - Text colour 1 (Text on the page + general buttons)
 - Text colour 2 (Text on function buttons of the page).

Notice:
If the user specifies text colour 2 manually, this colour is then also used for designating the function buttons.
Examples:

 - Up/down buttons for blinds
 - Plus/minus buttons for temperature controller (or other controllers with plus/minus)
 - Icons not selected for thermostat mode
- Separator colour: Adjustment of parting line between page contents (text blocks)
- Title foreground colour: Adjustment of text colour of page title (only title block)
- Title background colour: Adjustment of the background colour for the title block (only title block)

8.7.11.3 Create a new page

The procedure is as listed under item "Call up (standard) page". However, here menu item "Add new page" is called up.

Then a new page (similar to "Page 1") is added, which is listed in the menu column. This can then be adjusted normally.



Notice

Often it is easier to first select the page that is similar to the page to be created. This can then be copied (see chapter 8.7.15 "Copy pages" on page 231), with which a complete copy of the page is prepared. This copy can then be adjusted.

8.7.11.4 Room view

Room-view pages can be created with the "Room view" function. Room-view pages are special control pages that can be equipped with a background image. The background image can, for example, represent the room that is to be controlled. Control elements for the individual components can then be positioned on the background where they are located in the room.

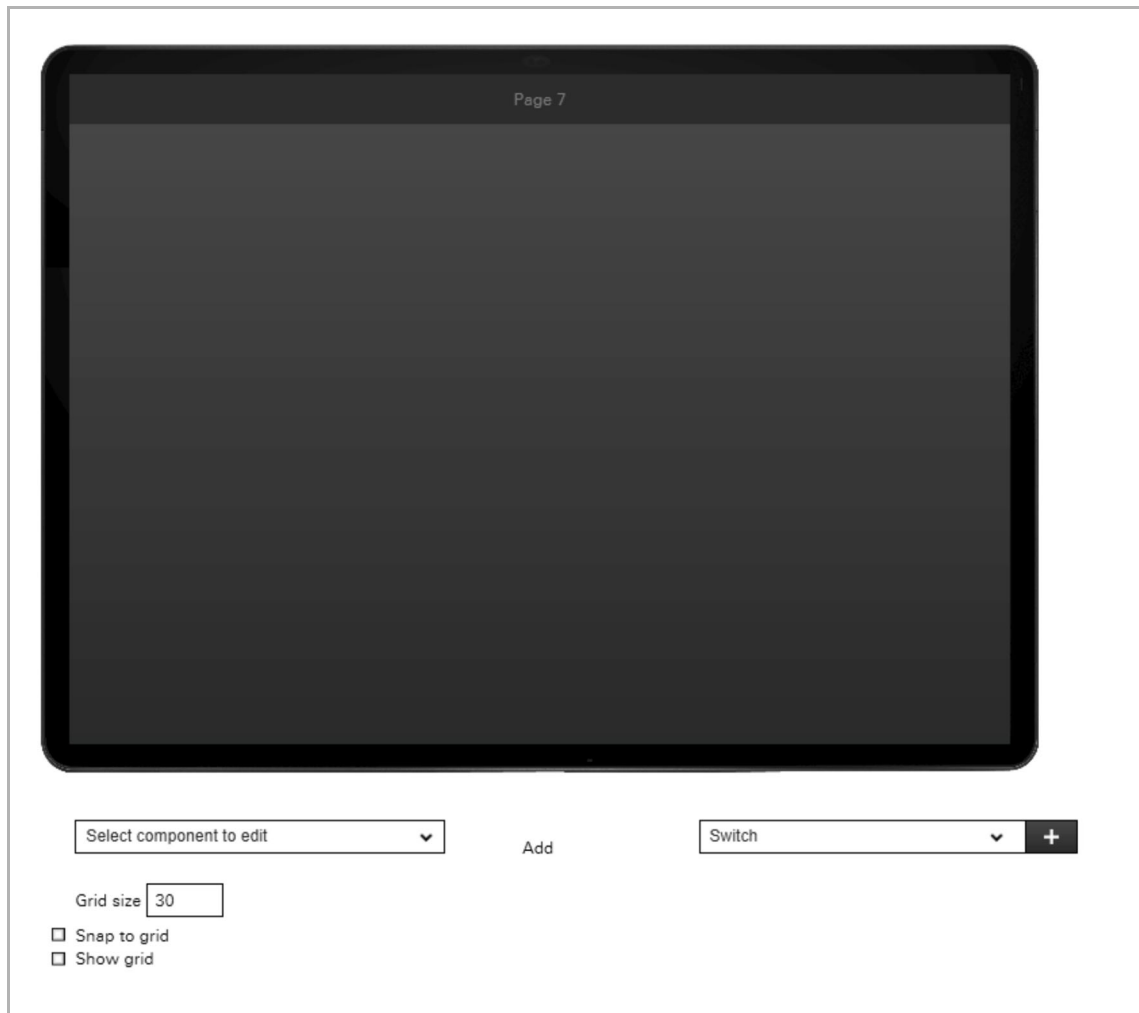


Fig. 57: Room view

1. Create a new page as described in Chapter 8.7.17.1 "Opening the configuration page" on page 232.
2. Enter a new name for the page (e.g. the name of the room).
This will be displayed directly on the page and in each link to this page.
3. Specify the page type as room-view page.
4. If desired, select an icon for this page.

In case of a page link, this icon would then be displayed on the menu page.



Notice

Selection of individual icons:

There is also the option of taking up one's own icons (pictures) into the selection. For this you can add one's own pictures via the "Pictures" tab. The pictures can then be selected and loaded via the "Add pictures" button.

5. You can stipulate for each page that it is protected by a PIN. An appropriate PIN can be specified in the input field.

The PIN is then requested when the page is called up.

6. Also the function "Request TouchID" can be activated. This is practical only if your mobile terminal device supports this function.
7. Then click/tap on the "Save" button.

The configuration view changes to the room view. Here you now have the following setting options:

- Select the component to be edited: The component to be edited, which can, for example, be the page itself or a switch, or a different control element.
- Grid size: The size of the alignment grid in the room view.
- Fix to the grid: When selected, the control elements are aligned on the alignment grid.
- Display grid: When selected, the alignment grid is faded into the room view.

8. Select the new page to be edited under "Select component to be edited".
9. Select a picture category under "Picture category". Then select a background under "Picture name".

The background selected is then displayed in the room-view page.



Notice

Room pictures:

The picture categories and pictures can be supplemented with their own backgrounds. For this the user can add one's own backgrounds via the "Pictures" tab. First a category must be selected. Then the background pictures can be selected and loaded via the "Add pictures" button.

10. Now different profile(page) elements (actions or page links) can be added to the page via the "Add" function. For this an element is selected in the options list.
11. Then tap on "+" to add the element.

The element is added to the room view.



Notice

- The Chapter 8.7.12 "Listing of profile(pages) elements (actions) " on page 192 lists the current profile(pages) elements with the setting options. Click/tap on a component to edit it (e.g. on a control element or the room-view page itself). The setting options for the component will then be displayed.

12. Pull the new element to the desired position in the room view via drag and drop. Use the grid as an option.

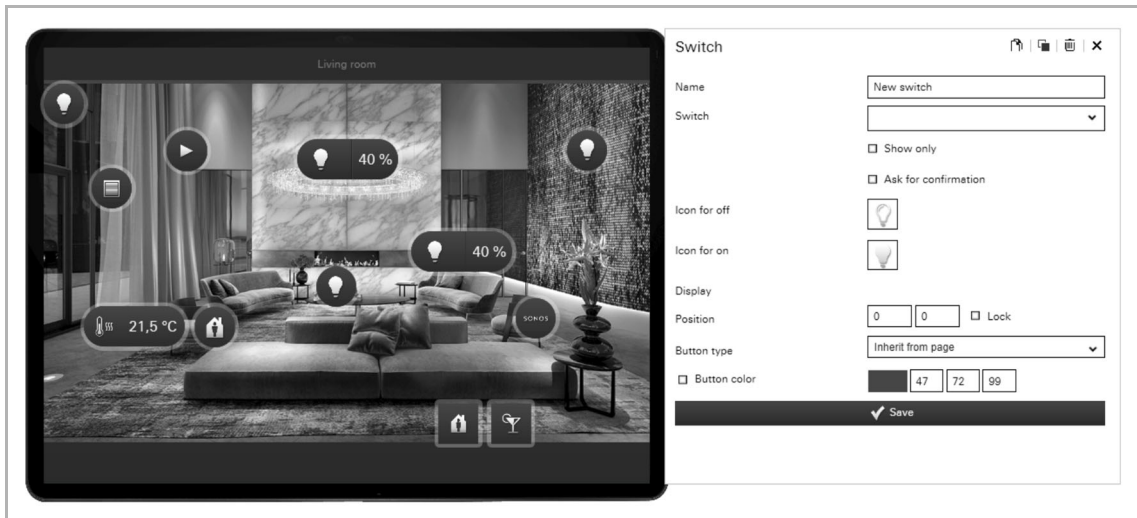


Fig. 58: Adding an element to the room view

13. Click/tap on the new element to configure it.
14. Finally, click/tap on the "Save" button.

The adjusted specifications for the page are saved.



Notice

Often it is easier to first select the page that is similar to the page to be created. This can then be copied (Chapter 8.7.15 "Copy pages" on page 231), with which a complete copy of the page is prepared. This copy can then be adjusted.

The entry "Extended options" is only available if the fitter has enabled this option under "Devices"!

The settings for the page and control element can be adjusted individually. Here the colours of different components of the pages can be adjusted. Otherwise the general page settings for the room view will be taken over from the profile.



Notice

The individual options must be activated so that the adjustments can be transmitted. The colour values can be easily adjusted with entries in the input fields. They are taken over immediately by tapping on the "Adjust" button. The adjustments can then be checked immediately in the room view.

The adjustments made here apply individually only to the edited page!

- Background colour: Adjustment of the background colour for the entire page (without title block)
- Background colour gradient: Adjustment of the basic colour of the background colour gradient for the entire page (without title block)
- Text colour: Adjustment of text colour on the entire page (without title block)
Here a subdivision is made in
 - Text colour 1 (Text on the page + general buttons)
 - Text colour 2 (Text on function buttons of the page).**Notice:**
If the user specifies text colour 2 manually, this colour is then also used for designating the function buttons.
Examples:
 - Up/down buttons for blinds
 - Plus/minus buttons for temperature controller (or other controllers with plus/minus)
 - Icons not selected for thermostat mode
- Separator colour: Adjustment of parting line between page contents (text blocks)
- Title foreground colour: Adjustment of text colour of page title (only title block)
- Title background colour: Adjustment of the background colour for the title block (only title block)

The following colour settings can now be made on specific control elements.

- Push-button colour: Adjustment of the push-button colour of a control element
- Push-button type: Adjustment of the push-button type (take over from the page, transparent, rectangular, round)
- Push-button size: Adjustment of the push-button size
- Fontsize: Adjustment of fontsize

8.7.12 Listing of profile(page) elements (actions)

8.7.12.1 RTC mode selection

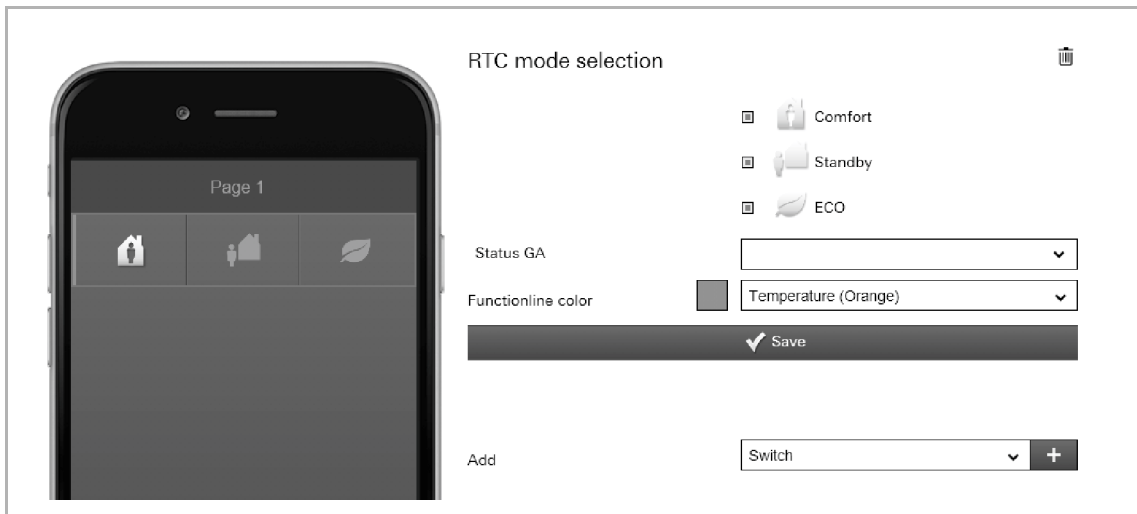


Fig. 59: RTC mode selection

The following RTC modes can be activated and are sent as KNX standard (only during activation is the corresponding icon displayed):

- Comfort: Heating/cooling is at the normal level.
- Standby: The heating/cooling output is slightly lowered.
- ECO: The heating/cooling output is extremely lowered.

Further setting/selection options:

- Status GA: Allocation of a corresponding status group address
- Function line colour: Specifying the function line colour.
Orange is provided for temperature.

8.7.12.2 Command sender

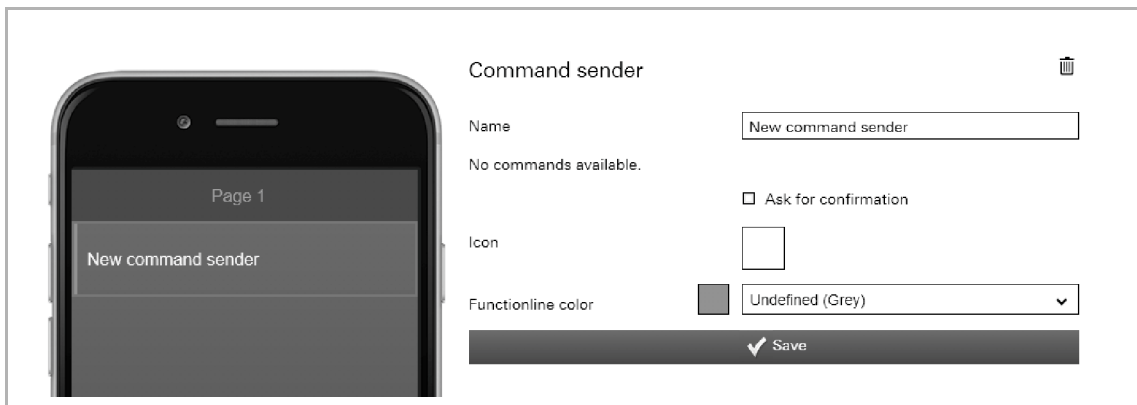


Fig. 60: Command sender

This is used to send commands to connected device components which have been created under 'Project → Commands' (see chapter "Commands" on page 57).

Further setting/selection options:

- **Name:** Designation of the command sender
- **Allocating commands:** If commands are available, they can be selected here.
- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon:** If desired, select an icon for this element. This icon would then be displayed.



NOTE

Selection of individual icons:

There is also the option of taking up one's own icons (pictures) into the selection. For this the fitter can add one's own pictures via the "Pictures" tabs. These tabs (functions) are only available if the fitter has enabled the option "Extended functions" under "Devices". The pictures can then be selected and loaded via the "Add pictures" button.

8.7.12.3 Display light intensity

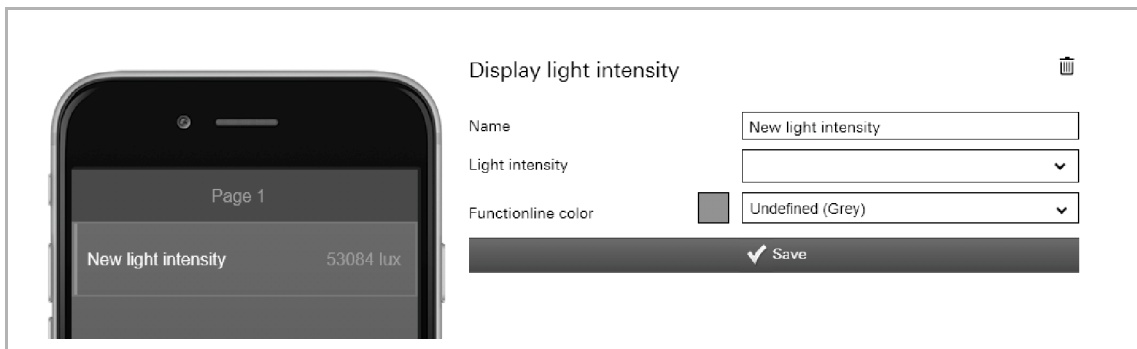


Fig. 61: Display light intensity

This can be used to display the current light intensity of a selected element (group address).

Further setting/selection options:

- Name: Designation of the status display for lighting intensity.
- Lighting intensity: Allocation of a corresponding group address.
- Function line colour: Specifying the function line colour.
Grey is provided for these types of functions.

8.7.12.4 Data Logger

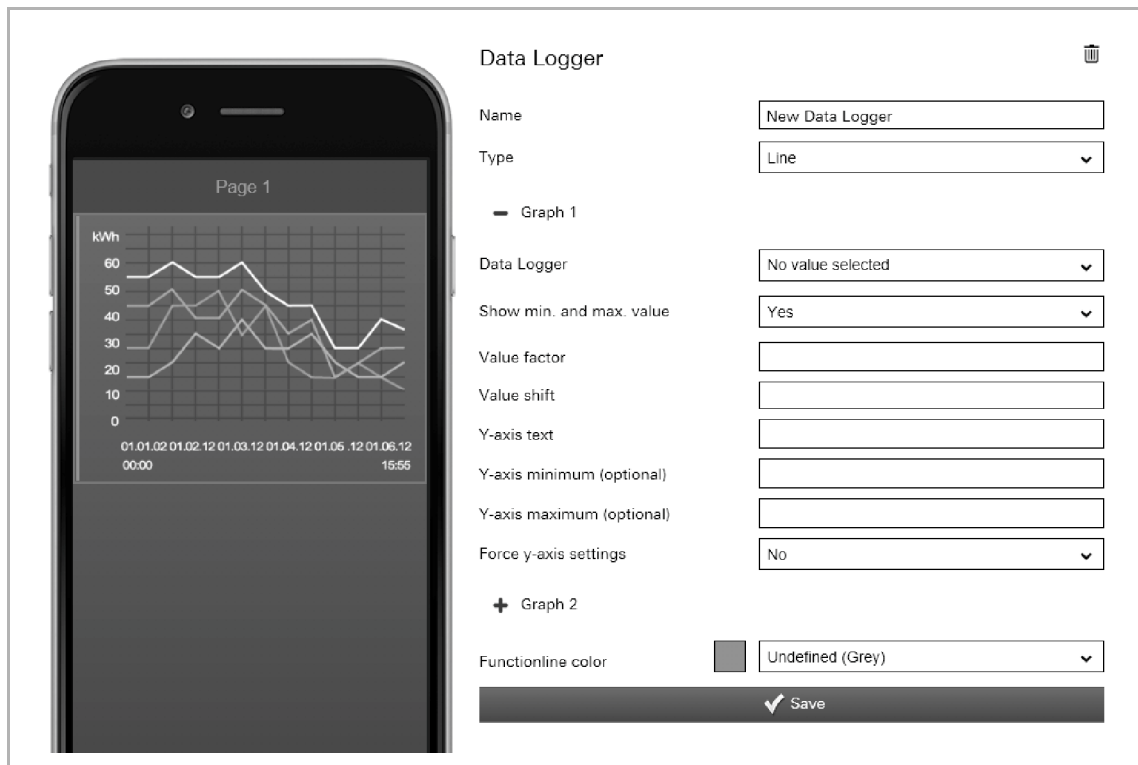


Fig. 62: Data logger

The data of components can be displayed graphically via the "Data logger" element. If these components with sensors are linked via group addresses, then the energy consumption of a house, the power of a photovoltaic system or the fill level of an oil tank can be visualised, for example. The data loggers are created under 'Project → Data logger' (see chapter "Data logger" on page 59) and can be selected here.

Further setting/selection options:

- Name: Designation of the data logger
- Type: Selection of the display type (line or bar)

Two diagrams can be displayed and appropriately edited (at diagram 2 it can be specified whether only 1 diagram is to be displayed)!

- Data logger: If data loggers are available, they can be selected here.
- Display min. and max. value: If "Yes" has been selected, a line along each of the minimum and maximum value is displayed.
- Value factor: All values are multiplied with the specified factor and the result displayed accordingly (e.g. change from W to KW).
- Value shift: All values are changed to the specified unit and the result displayed accordingly (e.g. change from F to °C).
- Y-axis text: = Entry of text for the designation of the Y-axis (vertical).
- Y-axis minimum (optional): Specifies from which minimum value a display on the Y-axis is carried out.
- Y-axis maximum (optional): Specifies up to which maximum value a display on the Y-axis is carried out.
- Force Y-axis settings: For setting "Yes" the specification of the minimum and maximum values of the Y-axis is activated.
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.5

Date / time

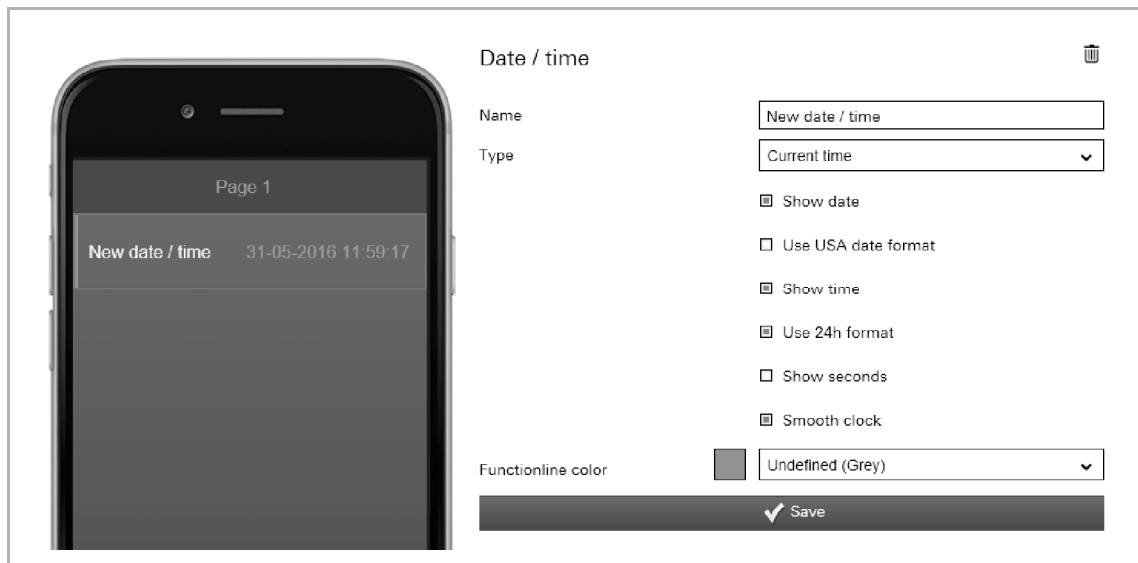


Fig. 63: Date/Time

Hereby the date and/or time is displayed (sending).

Further setting/selection options:

- Name: Designation of date/time display
- Type: Selection of time type:
 - Current time: Current system time which, if possible, is continuously transmitted via the Internet.
 - Sunrise: The time the sun rises at the location of the device.
 - Sunset: The time the sun sets at the location of the device.
 - Timestamp: A 4-byte value object is used to receive a timestamp via an external KNX device.
- Display date: The date is displayed after activation.
- Use USA date format: The following date format is used after activation: Month/Day/Year.
- Display time: The time is displayed according to the set time type after activation.
- Use 24h format: The 24h format (e.g. 21:34, or 09:34 is displayed) is used for the time display after activation.
- Display seconds: Also the seconds are displayed after activation.
- Continuous clock: The clock display continuous to run automatically after the start and is updated during access to the Internet.
- Function line colour: Specifying the function line colour.
Grey is provided for these types of functions.

8.7.12.6

Dimmer

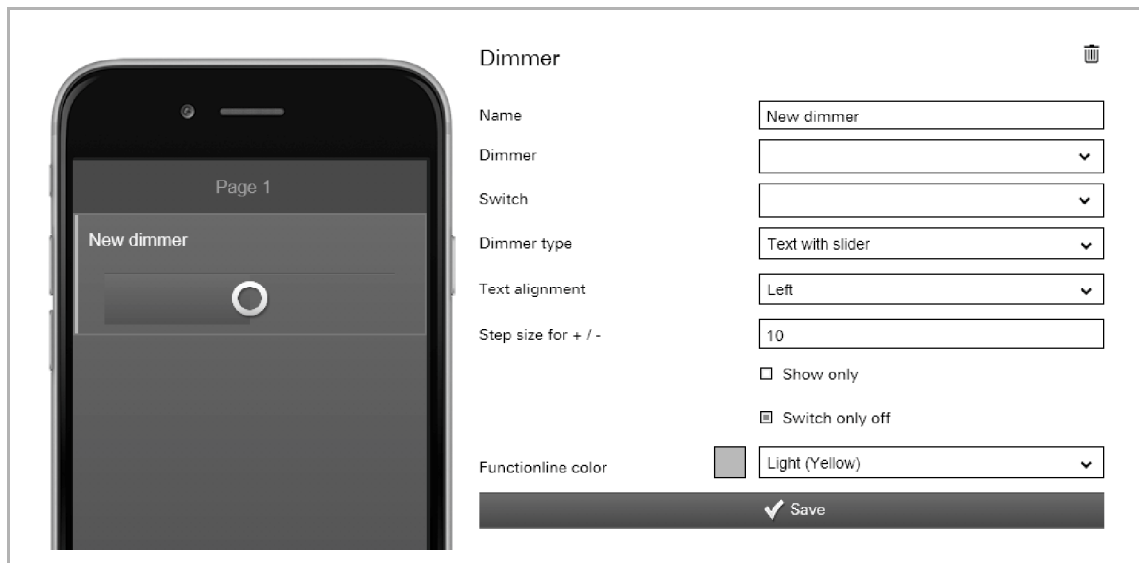


Fig. 64: Dimmer

Dimmer control can be set up via the "Dimmer" element. This allows an allocated lamp both to be dimmed and switched on and off.

Further setting/selection options:

- Name: Designation of dimmer
- Dimmer: The selection of a corresponding group address of a dimmer → the dimmer control is carried out via the dimming channel.
- Switch: The selection of a corresponding group address of a switch → direct switching on and off can also be carried out via the dimming channel.
- Dimmer type: Specifying the dimmer type:
Slider with text (name of the dimmer)
Buttons (-/+ with value display) with text (name of the dimmer)
- Text alignment: Specifying the text alignment (via the element) for the dimmer name.
 - Left
 - Mid
 - Right
- Step size for +/-: Here the step size of the dimmer adjustment can be specified.
- Display only: Only the status is displayed. Direct operation is not possible.
- Switch-off only: Normally the illumination can be switched on or off via the light icon. If this function is active, only a switch-off is possible via the light icon.
- Function line colour: Specifying the function line colour.
Yellow is provided for these types of functions.

8.7.12.7

Goto account

Fig. 65: Go to account

Here a link can be directly established to an account of the app. This opens it.

Further setting/selection options:

- **Name:** Designation of the account link
- **Account:** If accounts are available, they can be selected here.
- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon:** If desired, select an icon for this element. This icon would then be displayed. It can also be specified whether the icon is displayed on the right or left of the text.

**NOTE**

Selection of individual icons:

There is also the option of taking up one's own icons (pictures) into the selection. For this the fitter can add one's own pictures via the "Pictures" tabs. These tabs (functions) are only available if the fitter has enabled the option "Extended functions" under "Devices". The pictures can then be selected and loaded via the "Add pictures" button.

- **Function line colour:** Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.8 Goto menu

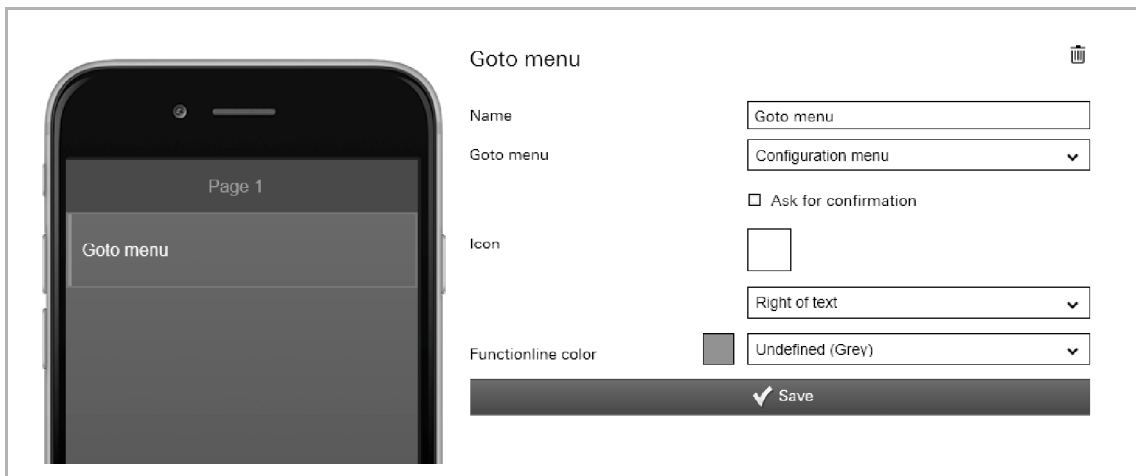


Fig. 66: Go to menu

Here a link can be directly established to a menu of the app. This opens it.

Further setting/selection options:

- Name: Designation of the menu link
- Go to menu: The following menus of the app can be selected:
 - Configuration menu
 - Settings
 - Scenes
 - Time switch
 - Alarm log
- Requesting confirmation: After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- Icon: If desired, select an icon for this element. This icon is then displayed. It can also be specified whether the icon is displayed on the right or left of the text.
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.9 Group header

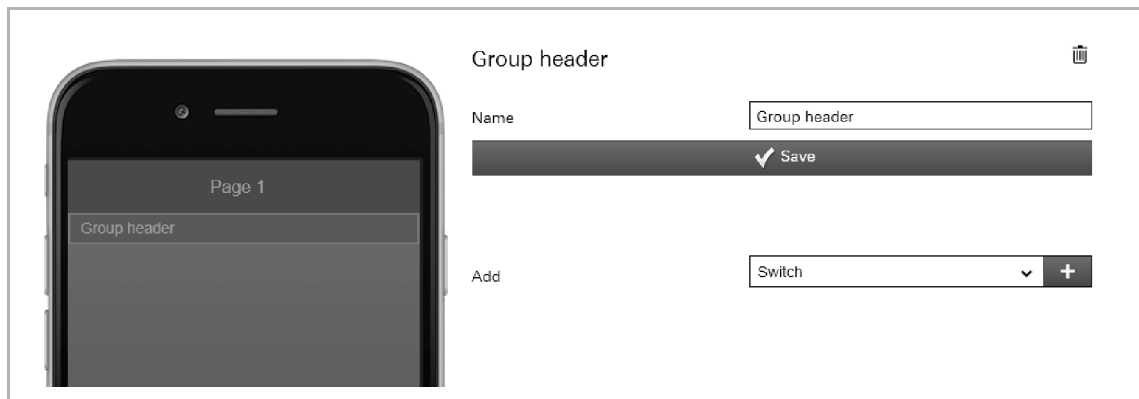


Fig. 67: Group header

This can be used to create sections on a page. For example, page links can be compiled and appropriately named (e.g. ground floor as group header name → then a listing of all page links of this floor).

Further setting/selection options:

- Name Designation of group header

8.7.12.10

Blind

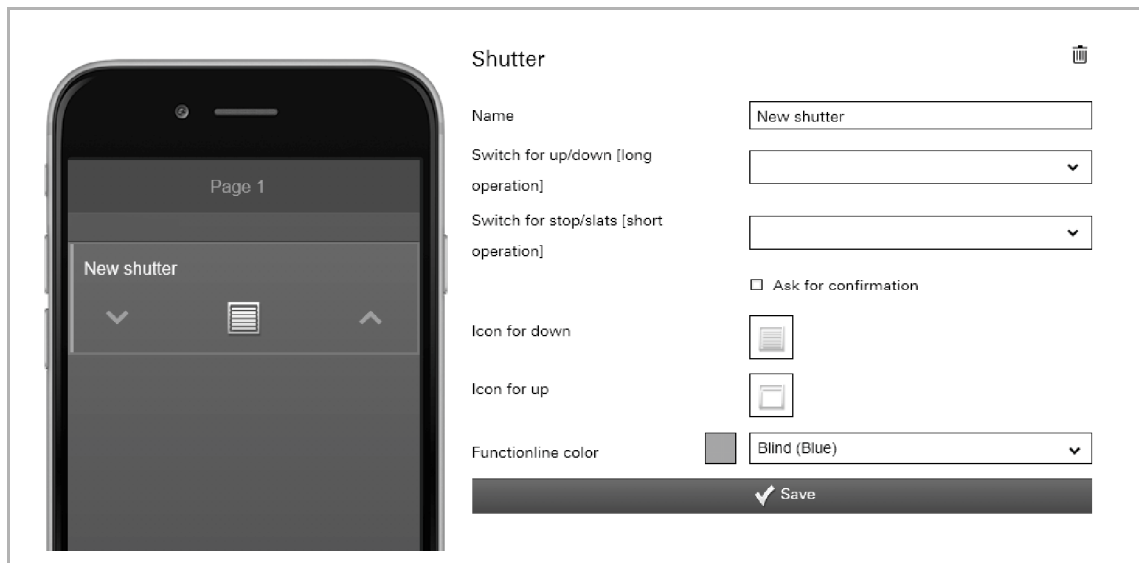


Fig. 68: Blind

Venetian blind control can be set up via the "Blind" element. An allocated blind can be operated with it. For this, 2 switches must be set up by the fitter. The blind starts to move when the switch is pressed [long operation → on one of the push-buttons]. The motor keeps running until the movement time has expired or until the switch is pressed again [short operation]. With a further short operation the slats can be adjusted. Movement is started again with a renewed long operation (the direction depends on the press of the respective push-button).

Further setting/selection options:

- Name: Designation of the blind
- Switch for up/down [long operation]: Selection of a corresponding group address of a blind actuator → controls the up and down movement of the blind.
- Switch for stop/slats [short operation]: Selection of a corresponding group address of a blind actuator → this allows the movement of the blind to be stopped and the slat rotation controlled.
- Requesting confirmation: After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- Icon for down: If desired, select an icon for this function. This icon would then be displayed when the push-button for "down" is pressed.
- Icon for up: If desired, select an icon for this function. This icon would then be displayed when the push-button for "up" is pressed.
- Function line colour: Specifying the function line colour.
Blue is provided for these types of functions.

8.7.12.11

Camera

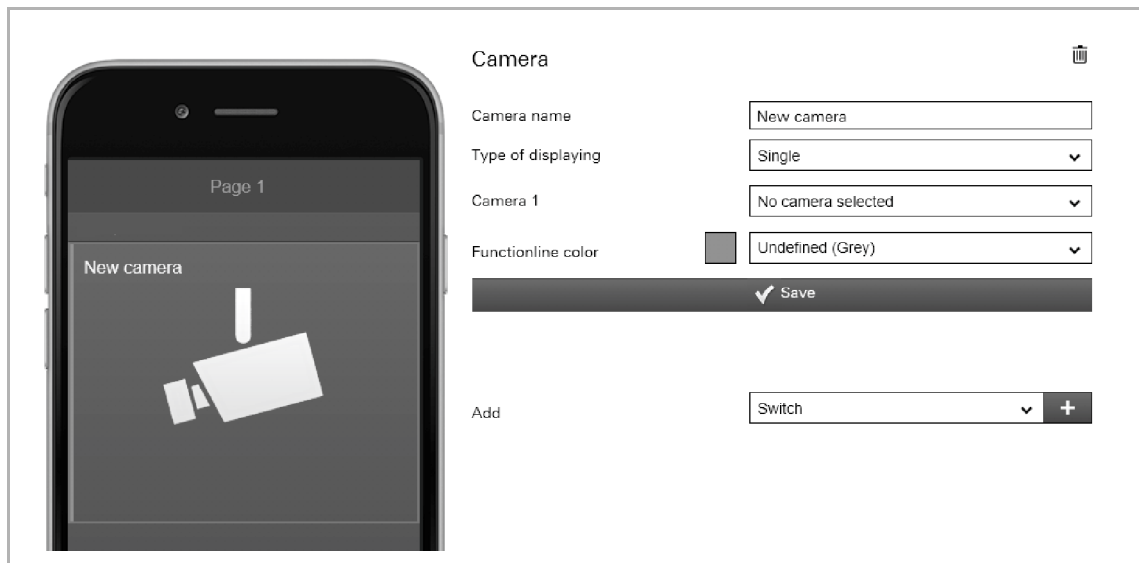


Fig. 69: Camera

With this an integrated intercom camera can be accessed. The camera images are displayed in the app according to type of display.

Further setting/selection options:

- Camera name: Designation of the camera application
- Type of display: Here it can be specified whether only one or several cameras should be accessed. The view is adjusted accordingly.
 - Single: Only the specified camera is accessed (camera 1). Only images of this camera are displayed.
 - Fourfold: Up to 4 specified cameras can be accessed (camera 1 - 4). Images of these cameras are displayed next to each other and simultaneously. When the function "Admit selection of cameras" is activated, single camera images can be selected. This single image is then displayed in large size.
 - Sequence: Up to 10 specified cameras can be accessed (camera 1 - 10). Images of this camera are displayed consecutively in rotation. Seconds can be specified for the interval of the rotation.
- Camera xx: Here the camera that is to be accessed can be specified (s).
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.12 Empty space

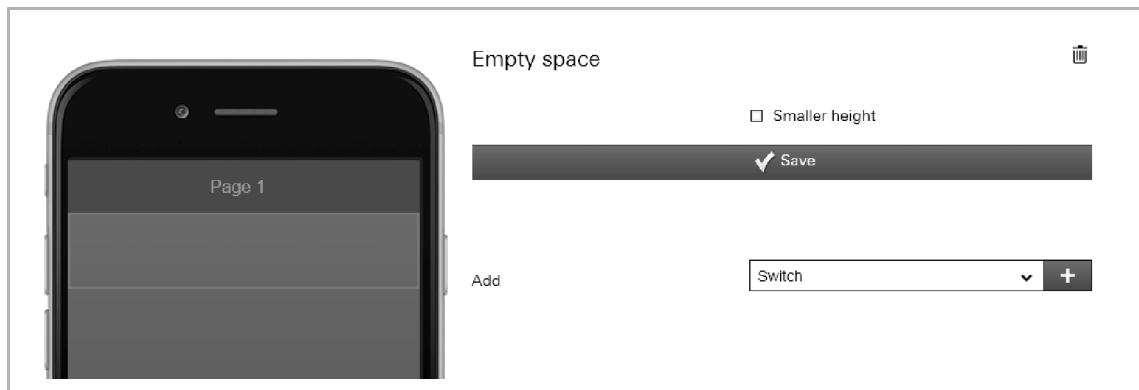


Fig. 70: Empty space

Here empty areas can be created (page sectors without content, so-called "Wildcards"). This allows pages to be clearly structured (e.g. sections can be demarcated better from each other).

Further setting/selection options:

- Smaller height The height of the area can be reduced.
 This height is strictly specified.

8.7.12.13 Display atm. pressure

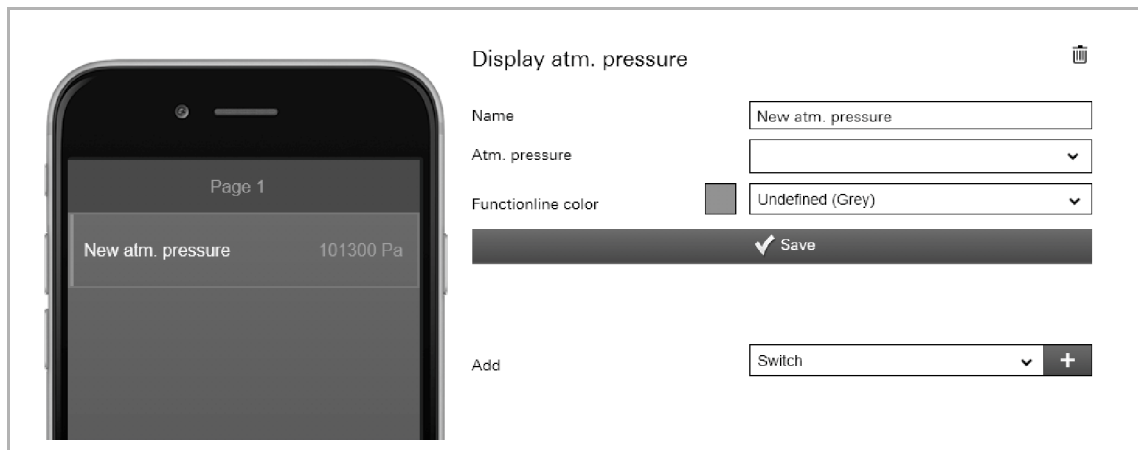


Fig. 71: Display atmospheric pressure

This can be used to display the current atmospheric pressure of a selected element (group address).

Further setting/selection options:

- Name: Designation of the status display for atmospheric pressure
- Air pressure: Allocation of a corresponding group address
- Function line colour: Specifying the function line colour.
Grey is provided for these types of functions.

8.7.12.14 Display atmospheric humidity

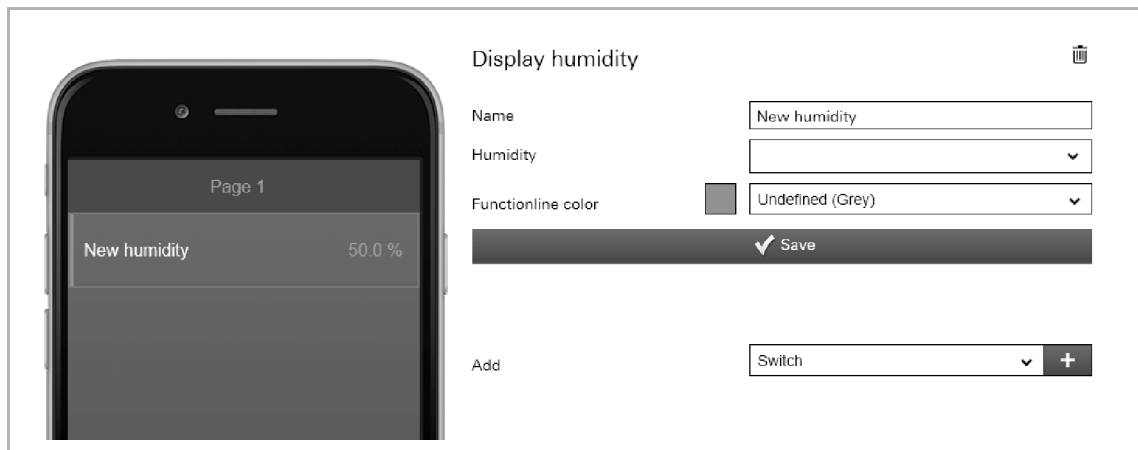


Fig. 72: Display atmospheric humidity

This can be used to display the current atmospheric humidity of a selected element (group address).

Further setting/selection options:

- Name: Designation of the status display for atmospheric humidity
- Air pressure: Allocation of a corresponding group address
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.15 RGB control

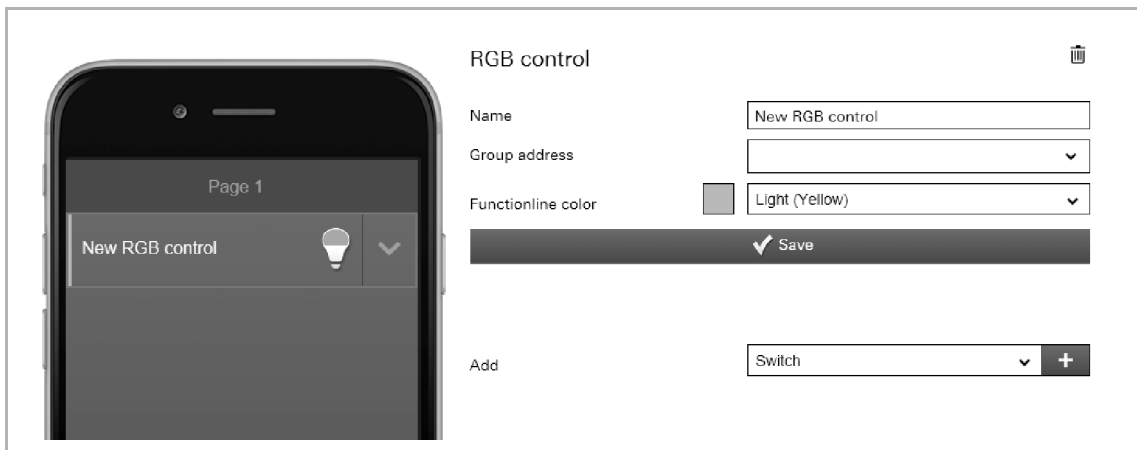


Fig. 73: RGB control

Here an RGB control element for corresponding lamps (LEDs, Philips Hue, etc.) can be set up. The allocation is carried out via selected elements (group addresses). Then specific settings can be made for the lamps. For example, the colours can be switched or the amount of warm white can be adjusted. The following figures show an example. The function is opened by tapping on the arrow in the control element.

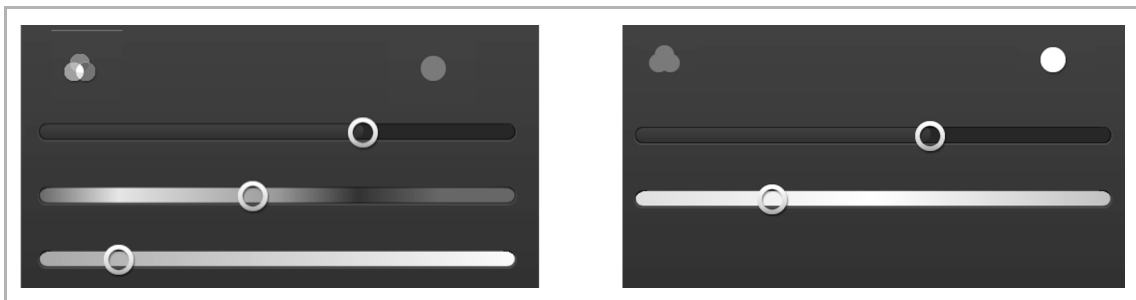


Fig. 74: RGB control element

Further setting/selection options:

- Name: Designation of the RGB control element:
- Group address: Allocation of a corresponding group address
- Function line colour: Specifying the function line colour. Yellow is provided for these types of functions.

8.7.12.16 RTC control element

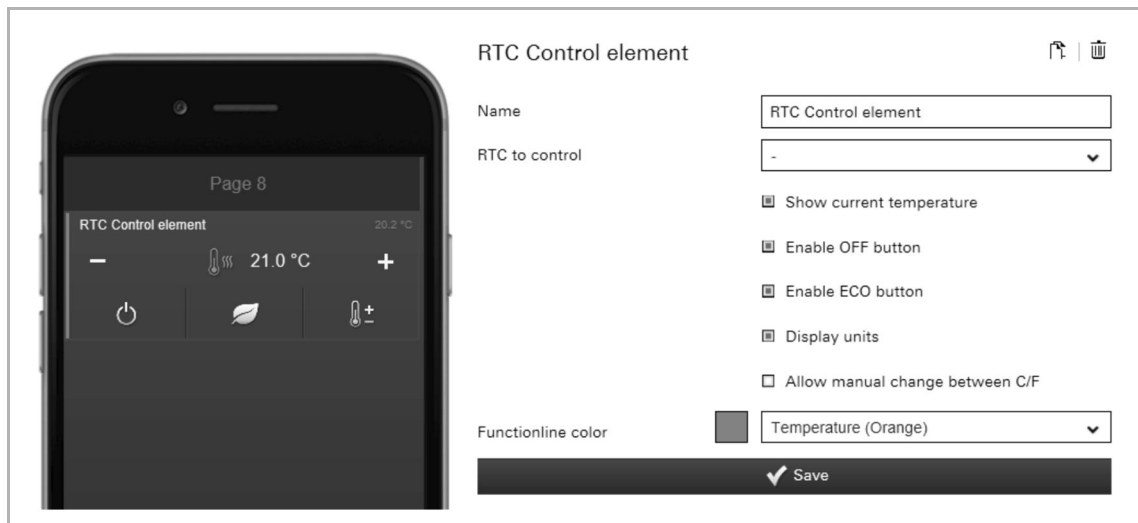


Fig. 75: RTC control element

The "RTC control element" (extension unit) can be used to control an allocated room temperature controller, for example.

Available setting/selection options:

- Name: Naming of the RTC control element
- To control RTC: Selection of a room temperature controller.
- Display actual temperature: When activated, the current temperature is displayed in the control element.
- Activate the OFF button: When activated, the OFF button is displayed.
- Activate the ECO button: When activated, the ECO button is displayed.
- Display units: When activated, the units behind the number values are displayed.
- Permit manual change between C/F: When activated, one can change between Celsius and Fahrenheit.
- Colour of function line: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.17 Switch

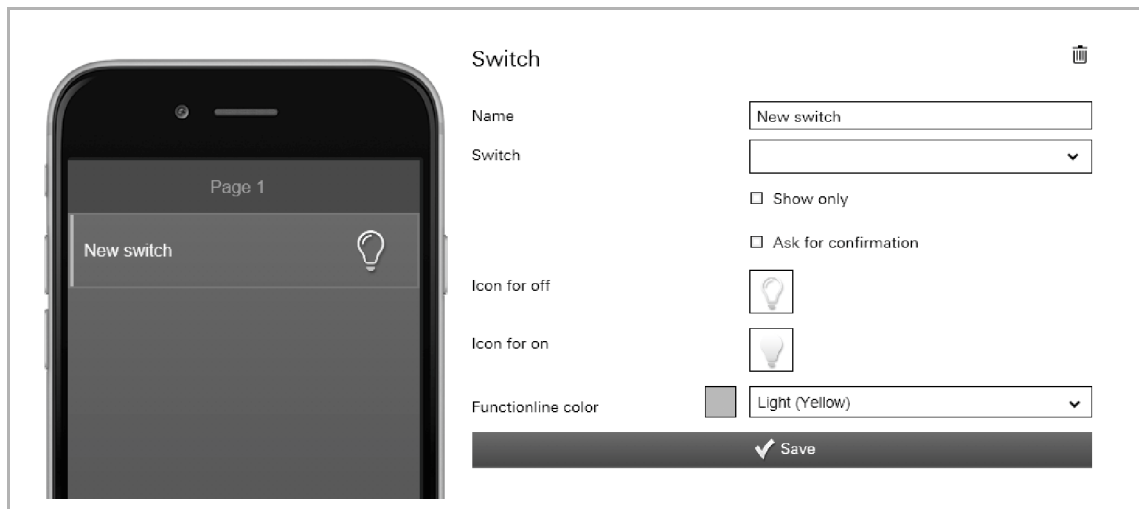


Fig. 76: Switch

Light control can be set up via the "Switch" element. This allows an allocated lamp to be switched on and off.

Further setting/selection options:

- **Name:** Designation of switch (e.g. the name of the lamp that is being switched)
- **Switch:** Selection of a corresponding group address of a light actuator.
- **Display only:** Only the status is displayed. Direct operation is not possible.
- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon for off:** If desired, select an icon for this function.
This icon is displayed when the light is switched off.
- **Icon for on:** If desired, select an icon for this function.
This icon is displayed when the light is switched on.
- **Function line colour:** Specifying the function line colour.
Yellow is provided for these types of functions.

8.7.12.18 Page link

Fig. 77: Page link

Here a link can be directly established on a created page. This opens it.

Further setting/selection options:

- On page: Selection of the page for linking. The pages must be created beforehand. Only then are they displayed. The selection will then also be displayed as name.

8.7.12.19 Sonos control element

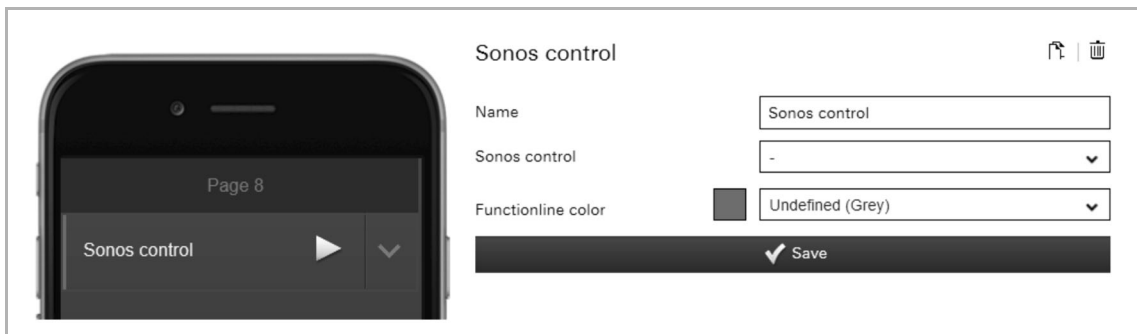


Fig. 78: Sonos control element

Sonos loudspeakers can be controlled via the "Sonos control element".

Three different modes of the Sonos control element are available in the app.

- **Player mode:**
 - The control element has available the most important control functions (play/pause, next/previous and volume) and shows the title currently being played.
- **Play lists and favourites mode:**
 - The control element displays favourites and play lists from which titles can be selected.
- **Group mode:**
 - The control functions for volume control and the option for grouping/cancelling grouping of players are displayed in the control element.

Further setting/selection options:

- **Name:** Naming of the Sonos control element.
- **Sonos control element:** Selection of a Sonos device.
- **Colour of function line:** Specifying the function line colour. Grey is provided for these types of functions.

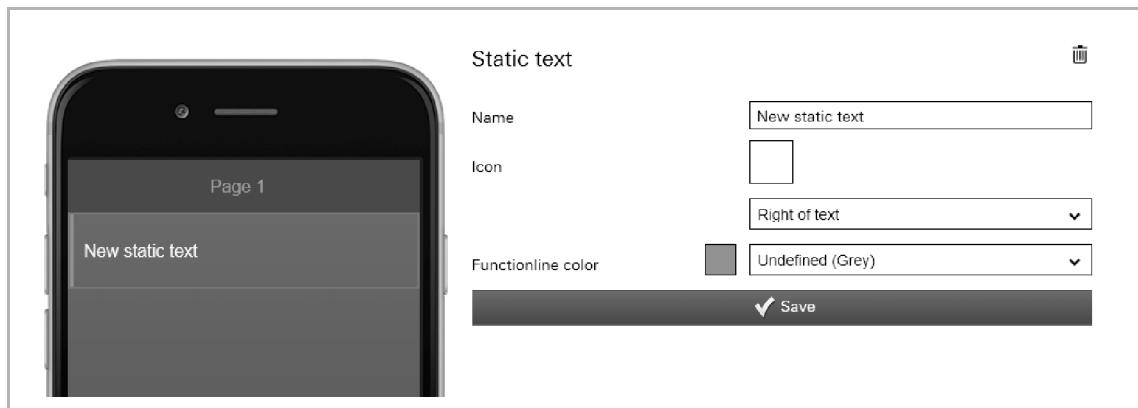
8.7.12.20 Static text

Fig. 79: Static text

Here a static text can be displayed in the app. This is merely a text display and has no further function.

Further setting/selection options:

- **Name:** The text entered here is displayed this way in the app.
- **Icon:** If desired, select an icon for this element. This icon would then be displayed. It can also be specified whether the icon is displayed on the right or left of the text.
- **Function line colour:** Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.21 Scene

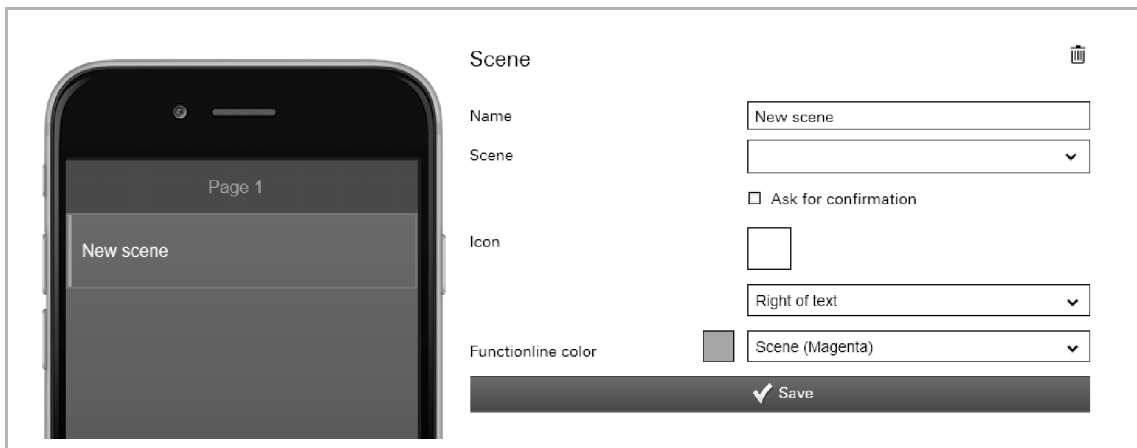


Fig. 80: Scene

A scene can be allocated via the "Scene" element. The scene is started by clicking/tapping on this element. The scenes must be created beforehand by the fitter.

Further setting/selection options:

- **Name:** Designation of the scene (e.g. wakeup)
- **Scene:** Selection of a corresponding group address of a scene.
- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon:** If desired, select an icon for this element. This icon is then displayed. It can also be specified whether the icon is displayed on the right or left of the text.
- **Function line colour:** Specifying the function line colour. Magenta is provided for these types of functions.

8.7.12.22 Push button row

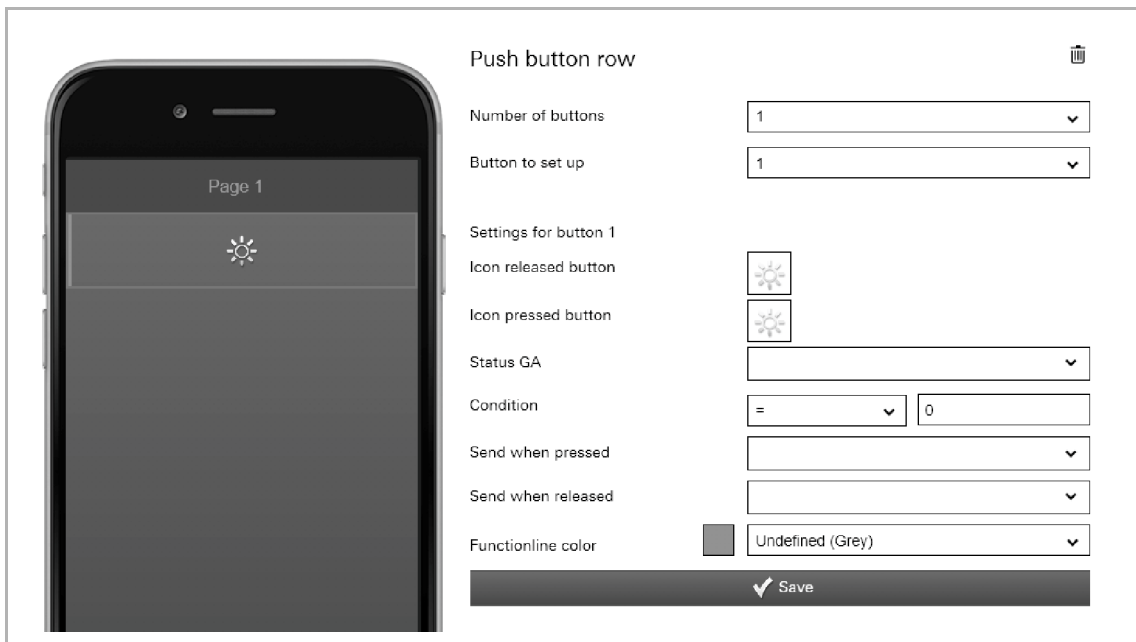


Fig. 81: Push-button row

For a push-button row, up to 6 single push-buttons can be displayed in a row. Each push-button can trigger a different function or send different values. The icons can be different depending on the status.

Further setting/selection options:

- **Number of buttons:** Selection of how many push-buttons are to be displayed in a row (up to 6)



Notice

Now save the settings made.

The push-buttons are displayed in the image of the iPhone. Tap on one of the push-buttons in the image of the iPhone. Further settings can now be made for this push-button.

- **Button to be set up:** Now select the push-button from the selected buttons in the image that is to be set up. If button 2 was marked, then button 2 should also be set up. Then "Settings for button 2" will be shown as example.
- **Push-button type:** Now select the push-button type.
The following push-button types are available for selection:
 - Send value (up/down + status)
 - Switch (on/off + status)
 - Blind (up/down + status)
 - Scene (no status)
 - Send command (TCP, Sonos, uPnP, no status)
 - Go to page (no status)
 - Go to menu (no status)
 - Go to account (no status)
 - Go to website (no status)
- **Released button icon:** If desired, select an icon for this function. This icon is then displayed after the button has been released.
- **Button pressed icon:** If desired, select an icon for this function. This icon is then displayed after the button has been pressed.

**Notice**

Selection of individual icons:

There is also the option of taking up one's own icons (pictures) into the selection. For this the fitter can add one's own pictures via the "Pictures" tabs. These tabs (functions) are only available if the fitter has enabled the option "Extended functions" under "Devices". The pictures can then be selected and loaded via the "Add pictures" button.

- **Status GA:** Allocation of a corresponding status group address. The following options are available:
 - Switch (DPT 1.x)
 - Dimmer (DPT 5.001)
 - 1 bit value (DPT 1.x)
 - 1 byte value (DPT 5.010)
 - 2 byte value (DPT 9.x float)
 - 2 byte value (DPT 7.x)
 - 2 byte value (DPT 8.x)
 - 4 byte value (DPT 14.x float)
 - 4 byte value (DPT 12.x)
 - 4 byte value (DPT 13.x)
 - Temperature (DPT 9.001)
 - Light intensity (DPT 9.004)
 - Wind speed (DPT 9.005)
 - Atmospheric pressure (DPT 9.006)
 - Relative humidity (DPT 9.007)
 - Scene (DPT 18.001)
- **Condition:** Here the conditions can be specified as to when the button function triggers.
- **Send when pressed:** Values can be sent when the button is pressed. The following options (group addresses) are available:
 - Send 1 bit value (DPT 1.x)
 - Send 1 byte value (DPT 5.010)
 - Send 2 byte value (DPT 9.x float)
 - Send 2 byte value (DPT 7.x)
 - Send 2 byte value (DPT 8.x)
 - Send 4 byte value (DPT 14.x float)
 - Send 4 byte value (DPT 12.x)
 - Send 4 byte value (DPT 13.x)
 - Scene (DPT 18.001)
- **Send when released:** Values can be sent when the button is released. The following options (group addresses) are available:
 - Send 1 bit value (DPT 1.x)
 - Send 1 byte value (DPT 5.010)
 - Send 2 byte value (DPT 9.x float)
 - Send 2 byte value (DPT 7.x)
 - Send 2 byte value (DPT 8.x)
 - Send 4 byte value (DPT 14.x float)
 - Send 4 byte value (DPT 12.x)
 - Send 4 byte value (DPT 13.x)
 - Scene (DPT 18.001)
- **Colour of function line:** Specifying the function line colour. Grey is provided for these types of functions.



Notice

This process must be repeated for each push-button.

8.7.12.23 Display temperature

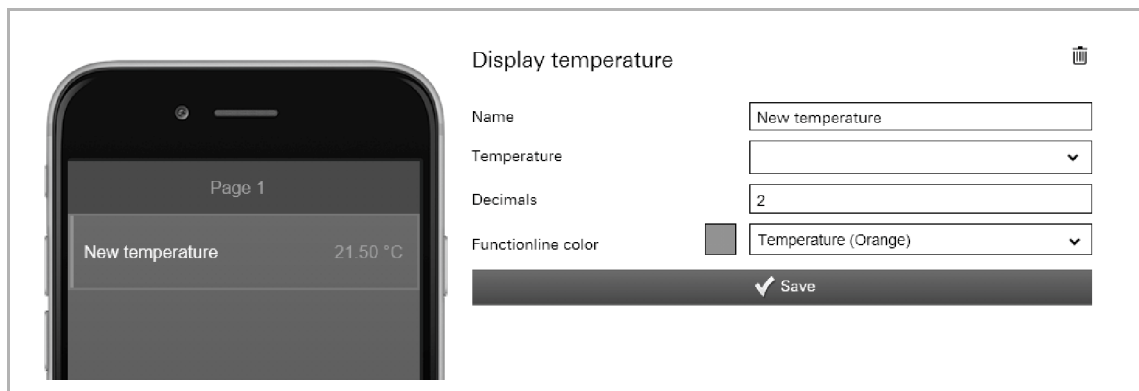


Fig. 82: Display temperature

This can be used to display the currently measured temperature of a selected element (group address).

Further setting/selection options:

- Name: Designation of the status display for temperature
- Temperature: Allocation of a corresponding group address
- Decimal places: Here can be specified how many decimal places are to be displayed.
- Function line colour: Specifying the function line colour.
Orange is provided for these types of functions.

8.7.12.24 Change temperature

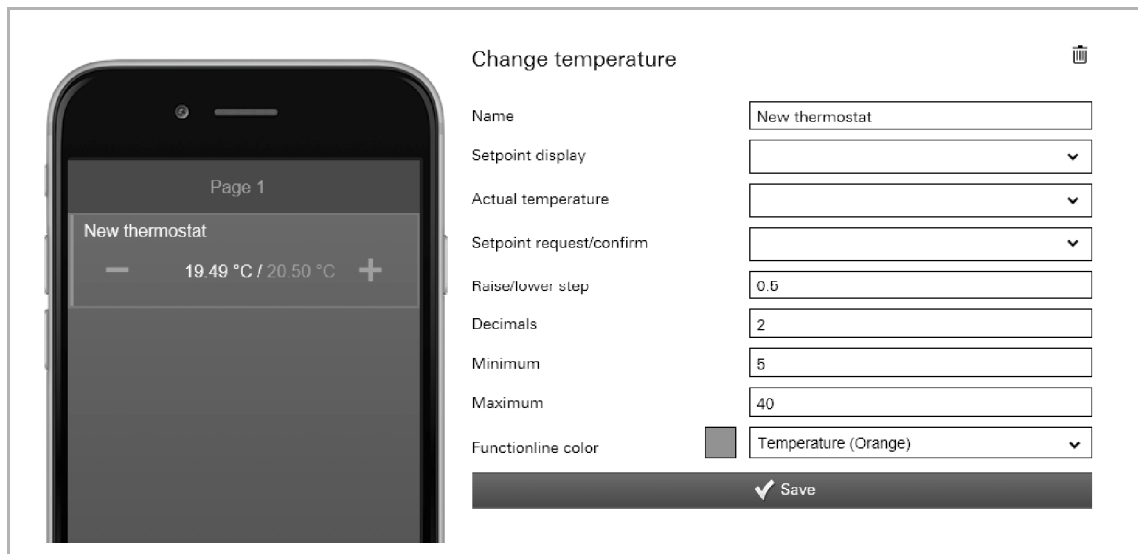


Fig. 83: Changing the temperature

A temperature control can be set up via the "Change temperature" element. This can then be used for an allocated room temperature controller (thermostat) to lower or raise the temperature.

Further setting/selection options:

- Name Designation of the thermostat (e.g. the name of the RTC that is being switched)
- Setpoint display Allocation of a corresponding group address (see example further down)
- Actual temperature Allocation of a corresponding group address (see example further down)
- Setpoint request/confirmation Allocation of a corresponding group address (see example further down)
- Raise/lower step Here the factor with which the temperature stage is to be adjusted can be specified (for example, the temperature is raised/lowered by 0.5°C with each click/tap of the button, when the factor is 0.5).
- Decimal places Here you can specify how many decimal places are to be displayed.
- Minimum Here the temperature value can be specified which is to be sent as minimum.
- Maximum Here the temperature value can be specified which is to be sent as maximum.
- Function line colour Specifying the function line colour.
Orange is provided for these types of functions

The following section briefly explains what is to be ensured when a temperature adjustment of a master RTC is to be carried out via the Busch-ControlTouch®.

1. The following objects must each be connected with a group address:

Name	Object function	Description	Group address	Length
RTC: Heating control value	Output			1 bit
RTC: Control On/Off (master)	Output			1 bit
RTC: Actual temperature	Output		9/7/0	2 byte
RTC: Fault, actual temperature (master)	Output			1 bit
RTC: Current setpoint	Output			2 byte
RTC: Operating mode (master)	Input / output			1 byte
RTC: Superimposed operating mode (master/slave)	Input			1 byte
RTC: Window contact (master/slave)	Input			1 bit
RTC: Presence detector (master/slave)	Input			1 bit
RTC: Basic set value	Input			2 byte
RTC: On/off request (master)	Input			1 bit
RTC: Setpoint display (master)	Output		9/7/2	2 byte
RTC: Request setpoint (master)	Input		9/7/1	1 byte
RTC: Confirm setpoint (master)	Output		9/7/3	1 byte
RTC: Controller status RHCC	Output			2 byte
RTC: Controller status HVAC (master)	Output			1 byte
RTC: Commissioned	Output			1 bit

Fig. 84: Objects / group addresses

(The numbers of the group addresses are merely an example)

2. These group addresses must then be created in a project according to the Busch-ControlTouch® :

Typ	Name	Sending GA	Status GA
Shift	Change setpoint	9/7/1	9/7/3
Temperature (DPT 9.001)	Actual temperature		9/7/0
Temperature (DPT 9.001)	Setpoint display	9/7/2	9/7/2

Fig. 85: Group addresses

3. The created functions must then be linked with the "Adjust temperature" element:

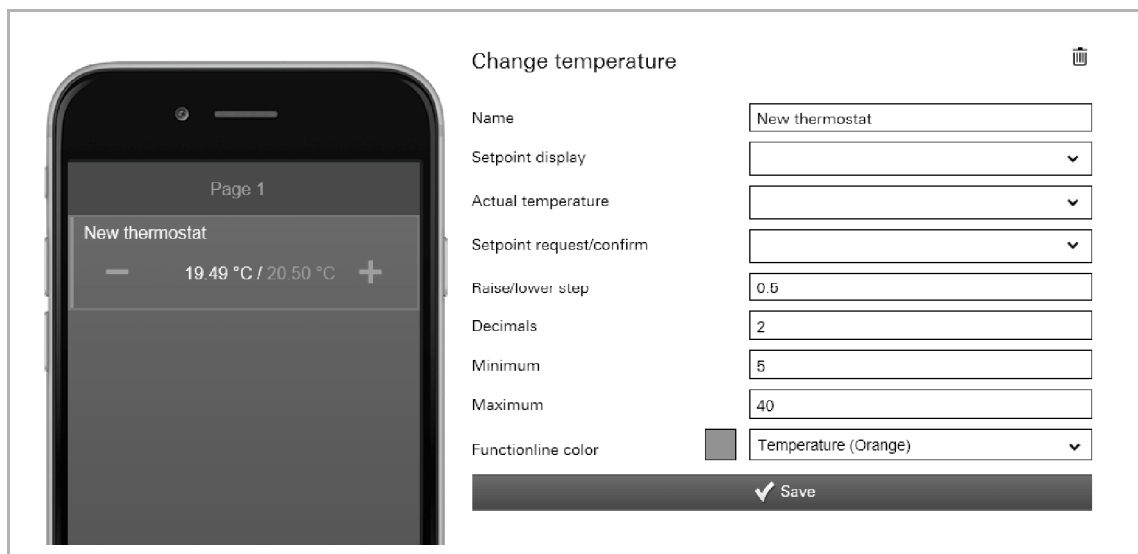


Fig. 86: Adjust temperature control element

8.7.12.25

UPnP slider

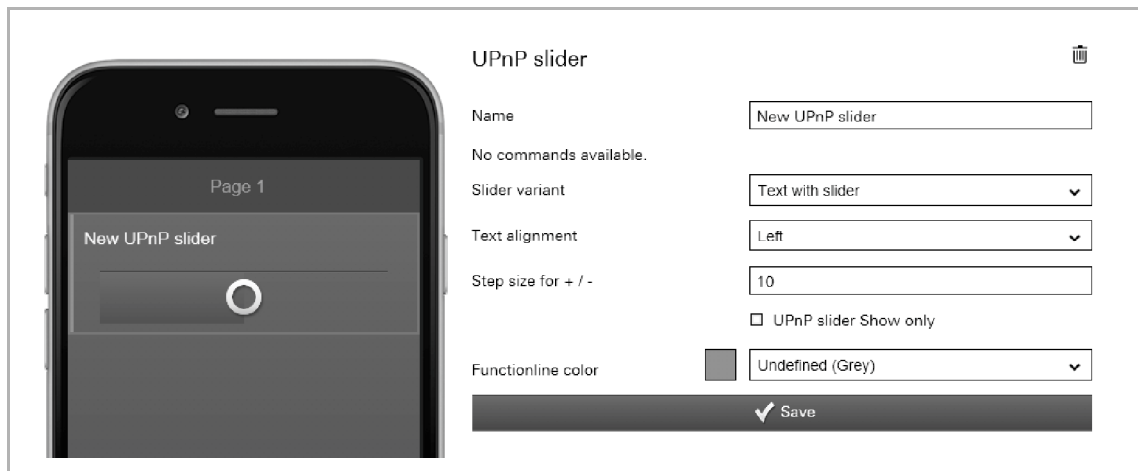


Fig. 87: UPnP slider

This is used to send commands (e.g. adjust volume) to connected UPnP device components which have been created under 'Project → Commands' (see chapter “Commands “ on page 57>). In this case the control is carried out via a slider/button as control element.

Further setting/selection options:

- Name: Designation of the slider/button (e.g. name of the device)
- Allocating commands: If commands are available, they can be selected here.
- Slider version: Specifying the slider/controller type:
 - Slider with text (name of the controller)
 - Buttons (-/+ with value display) with text (name of the controller)
- Text alignment: Specifying the text alignment (via the element) for the controller name.
 - Left
 - Mid
 - Right
- Step size for +/- Here the step size of the controller adjustment can be specified.
- UPnP slider display only: Only the controller values are displayed. Direct operation is not possible.
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.26 Variable text

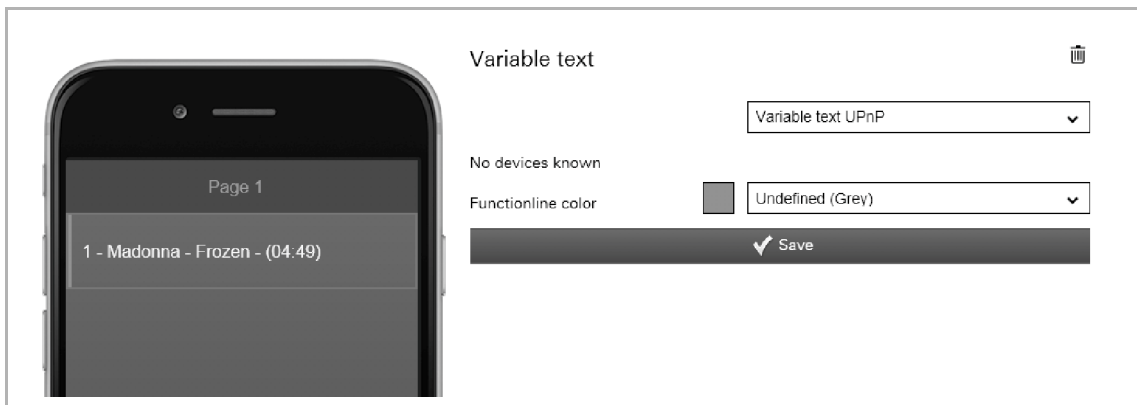


Fig. 88: Variable text

Here the variable texts of KNX or UPnP devices can be displayed. This, for example, allows the current artist to be displayed whose song is currently being played. A different text appears when the song changes. For this function the appropriate devices must be available in the system, to enable them to be allocated here.

Further setting/selection options:

- Selection of whether a KNX- or UPnP device is to be accessed.
 - Variable text components = KNX device
 - Variable text UPnP = UPnP device

Available devices are displayed depending on the selection. These can be selected.

- Function line colour Specifying the function line colour. Grey is provided for these types of functions.
- For the "Variable text UPnP" you can use the following special values.
 - [tt] = Title
 - [cr] = Creator
 - [ar] = Artist
 - [au] = Author
 - [ge] = Genre
 - [at] = Album title
 - [st] = Status
 - [so] = Source
 - [nt] = Number of titles
 - [tn] = Title number
 - [td] = Title duration
 - [tp] = Title position
 - [md] = Media duration
 - [mp] = Media position
 - [pm] = Playback mode

8.7.12.27

Web page

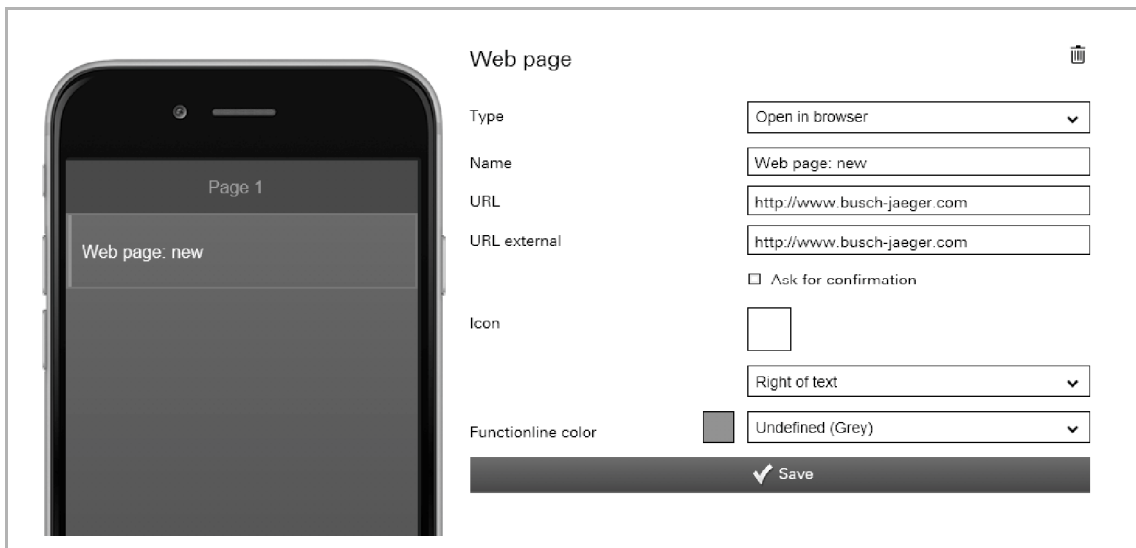


Fig. 89: Web page

Here a link can be directly established on a web page (Internet site). This opens it. This function can, for example, also be used via the Internet for operating an alarm system or an audio server. However, also an app can be opened via this link.

Further setting/selection options:

- **Type:** Here it can be specified whether the web page is displayed directly on the page in a frame or whether a browser window is opened.
- **Name:** Name of the link (e.g. URL of the web page)
- **URL:** Reference address on the web page. The entire URL address need not be specified for an internal link (e.g. internal network).
- **URL external:** Reference address on the web page. The entire URL address must be specified for an external link (outside the internal network). Both the type of service, server name and possibly sub-directories, if they are used. If it is not the start page, then also the file name.
- **Function line colour:** Specifying the function line colour. Grey is provided for these types of functions.


Further setting/selection options by type "On page":

- **Width/height ratio:** Here the page ratio of the displayed frame can be specified
- **Max. height (px):** Here the maximum width of the frame in pixel can be specified.
- **Max. height (px):** Here the maximum height of the frame in pixel can be specified.

Further setting/selection options by type "Open in browser":

- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon:** If desired, select an icon for this element. This icon is then displayed. It can also be specified whether the icon is displayed on the right or left of the text.

8.7.12.28 Display value

Display value 

Name

Values


Units (in front)

Units (behind)

Factor

Value shift

Decimals

You can use the following special combinations in the units field:
 [deg] for ° - [2] for ² - [3] for ³
 When no display value is chosen, it will not be displayed.

Functionline color


 Save

Fig. 90: Display value

This can be used to display the currently transmitted values of a selected element (group address).

Further setting/selection options:

- Name: Name of the value indicator.
- Values: Allocation of a corresponding status group address. The following options are available:
 - Switch (DPT 1.x)
 - Dimmer (DPT 5.001)
 - 1 bit value (DPT 1.x)
 - 1 byte value (DPT 5.010)
 - 2 byte value (DPT 9.x float)
 - 2 byte value (DPT 7.x)
 - 2 byte value (DPT 8.x)
 - 4 byte value (DPT 14.x float)
 - 4 byte value (DPT 12.x)
 - 4 byte value (DPT 13.x)
 - Temperature (DPT 9.001)
 - Light intensity (DPT 9.004)
 - Wind speed (DPT 9.005)
 - Atmospheric pressure (DPT 9.006)
 - Relative humidity (DPT 9.007)
 - Scene (DPT 18.001)
- Units (in front): The unit is displayed before the value (e.g. for currency symbols such as €)
- Units (behind): The unit is displayed after the value (e.g. for physical units such as °C)

**NOTE**

You can use the following special combinations in the units field: [deg] for ° - [2] for ² - [3] for ³

If no display value has been selected, nothing will be displayed.

- Value factor: = All values are multiplied with the specified factor and the result displayed accordingly (e.g. change from W to KW).
- Value shift: All values are changed to the specified unit and the result displayed accordingly (e.g. change from F to °C).
- Decimal places: Here can be specified how many decimal places are to be displayed.
- Function line colour: Specifying the function line colour.
Grey is provided for these types of functions.

8.7.12.29

Value controller

Fig. 91: Value controller

This can be used to display the values of a selected element (group address) and to adjust them at the same time via push-buttons. When they adjusted, the values are always displayed updated. This allows the values to be sent and received.

Further setting/selection options:

- Name: Name of value controller (e.g. designation of the device).
- Value object Allocation of a corresponding group address. Values are sent. The following options are available:
 - Switch (DPT 1.x)
 - Dimmer (DPT 5.001)
 - 1 bit value (DPT 1.x)
 - 1 byte value (DPT 5.010)
 - 2 byte value (DPT 9.x float)
 - 2 byte value (DPT 7.x)
 - 2 byte value (DPT 8.x)
 - 4 byte value (DPT 14.x float)
 - 4 byte value (DPT 12.x)
 - 4 byte value (DPT 13.x)
 - Temperature (DPT 9.001)
 - Light intensity (DPT 9.004)
 - Wind speed (DPT 9.005)
 - Atmospheric pressure (DPT 9.006)
 - Relative humidity (DPT 9.007)
- Status value object Allocation of a corresponding status group address. The following options are available:
 - Switch (DPT 1.x)
 - Dimmer (DPT 5.001)

- 1 bit value (DPT 1.x)
 - 1 byte value (DPT 5.010)
 - 2 byte value (DPT 9.x float)
 - 2 byte value (DPT 7.x)
 - 2 byte value (DPT 8.x)
 - 4 byte value (DPT 14.x float)
 - 4 byte value (DPT 12.x)
 - Scene (DPT 18.001)
 - 4 byte value (DPT 13.x)
 - Temperature (DPT 9.001)
 - Light intensity (DPT 9.004)
 - Wind speed (DPT 9.005)
 - Atmospheric pressure (DPT 9.006)
 - Relative humidity (DPT 9.007)
- Raise/lower step: Here the factor with which the temperature stage is to be adjusted can be specified (for example, the temperature is raised/lowered by 0.5°C with each click/tap of the button, when the factor is 0.5).
 - Units (behind): The unit is displayed after the value (e.g. for physical units such as °C)

**NOTE**

You can use the following special combinations in the units field: [deg] for ° - [2] for ² - [3] for ³

If no display value has been selected, nothing will displayed.

- Factor: All values are multiplied with the specified factor and the result displayed accordingly (e.g. change from W to KW).
- Value shift: All values are changed to the specified unit and the result displayed accordingly (e.g. change from F to °C).
- Minimum: Here the value can be specified which is to be sent as minimum.
- Maximum: Here the value can be specified which is to be sent as maximum.
- Function line colour: Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.30 Value transmitter

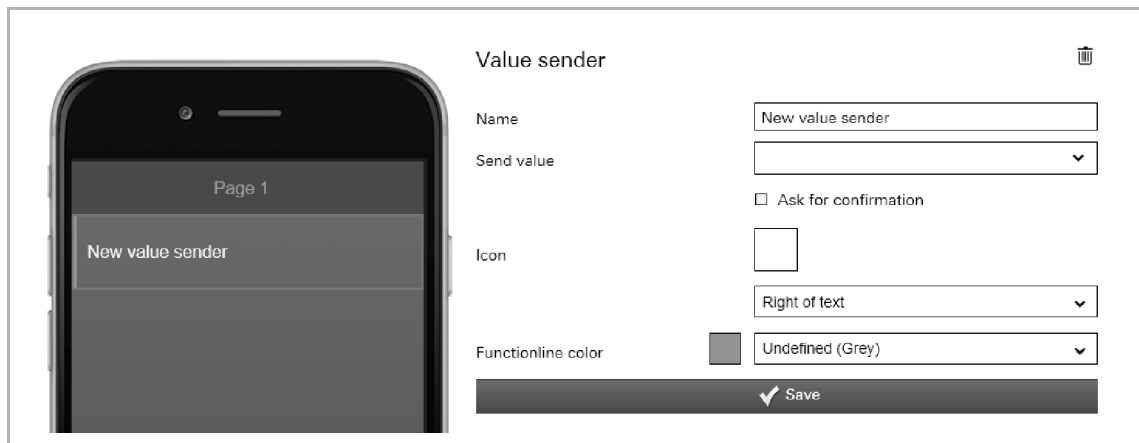


Fig. 92: Value transmitter

Here values can be sent to a selected element (group address).

Further setting/selection options:

- **Name:** Name of value transmitter (e.g. designation of the device).
- **Send value:** Allocation of a corresponding group address. Values are sent. The following options are available:
 - Send 1 bit value (DPT 1.x)
 - Send 1 byte value (DPT 5.010)
 - Send 2 byte value (DPT 9.x float)
 - Send 2 byte value (DPT 7.x)
 - Send 2 byte value (DPT 8.x)
 - Send 4 byte value (DPT 14.x float)
 - Send 4 byte value (DPT 12.x)
 - Send 4 byte value (DPT 13.x)
- **Requesting confirmation:** After receipt of a command a corresponding confirmation is sent back. This must then be appropriately confirmed. Only then will the command be carried out. This is to prevent an action being carried out by mistake.
- **Icon:** If desired, select an icon for this element. This icon is then displayed. It can also be specified whether the icon is displayed on the right or left of the text.
- **Function line colour:** Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.31 Value push button

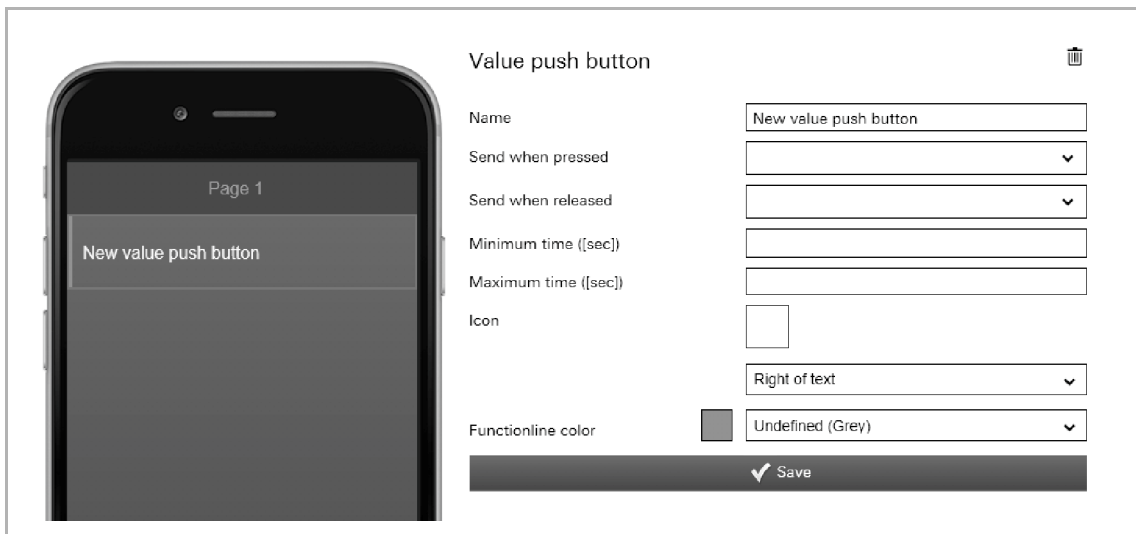


Fig. 93: Value push-button

Here values can be sent to a selected element (group address) via a push-button. There is the option of sending different values when the button is pressed than when the button is released.

Further setting/selection options:

- **Name:** Name of value push-button (e.g. designation of the device).
- **Send when pressed:** Allocation of a corresponding group address. Values are sent when the button is pressed. The following options are available:
 - Send 1 bit value (DPT 1.x)
 - Send 1 byte value (DPT 5.010)
 - Send 2 byte value (DPT 9.x float)
 - Send 2 byte value (DPT 7.x)
 - Send 2 byte value (DPT 8.x)
 - Send 4 byte value (DPT 14.x float)
 - Send 4 byte value (DPT 12.x)
 - Send 4 byte value (DPT 13.x)
- **Send when released:** Allocation of a corresponding group address. Values are sent when the button is released. The following options are available:
 - Send 1 bit value (DPT 1.x)
 - Send 1 byte value (DPT 5.010)
 - Send 2 byte value (DPT 9.x float)
 - Send 2 byte value (DPT 7.x)
 - Send 2 byte value (DPT 8.x)
 - Send 4 byte value (DPT 14.x float)
 - Send 4 byte value (DPT 12.x)
 - Send 4 byte value (DPT 13.x)
- **Minimum time ([sec]):** The push-button must remain pressed at least for the set time, so that the value for "Send when pressed" is sent.
- **Maximum time ([sec]):** If the push-button remains pressed longer than the set time, the value for "Send when released" is sent.
- **Icon:** If desired, select an icon for this element. This icon would then be displayed. It can also be specified whether the icon is displayed on the right or left of the text.
- **Function line colour:** Specifying the function line colour. Grey is provided for these types of functions.

8.7.12.32 Display windspeed

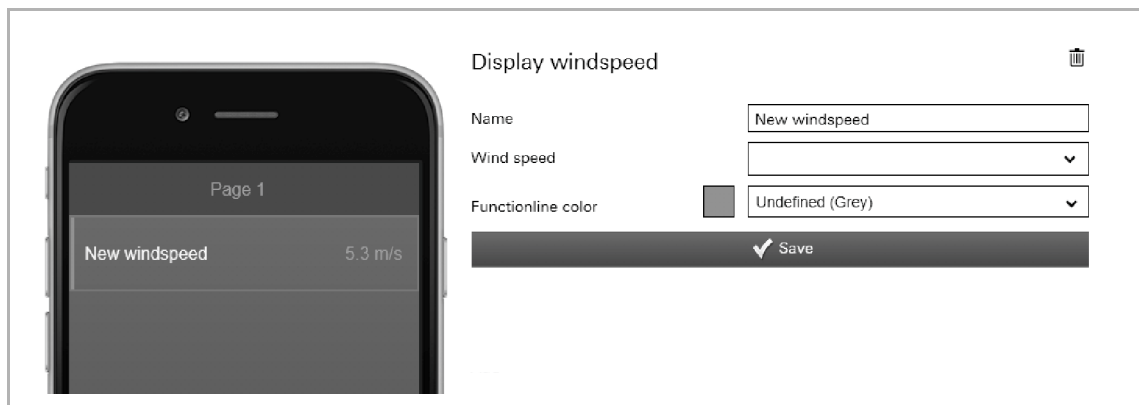


Fig. 94: Display wind speed

This can be used to display the current wind speed of a selected element (group address).

Further setting/selection options:

- Name: Designation of the status display for wind speed
- Wind speed: Allocation of a corresponding group address
- Function line colour: Specifying the function line colour.
Grey is provided for these types of functions.

8.7.13 Deleting pages

Each profile(page) element can also be deleted.

1. Select the appropriate profile in the menu column.

The profile opens.

2. Then select the page in the right menu column that contains the element to be deleted.

The page opens.

3. Now select the element on the image of the iPhone.

4. Tap on the rubbish bin icon.

5. Confirm the message.

The element is deleted.

8.7.14 Copying the page element

Each profile (page) element can also be copied along with all of its settings.

1. Select the appropriate profile in the menu column.

The profile opens.

2. Then select the page in the right menu column that contains the element to be copied.

The page opens.

3. Now select the element on the image of the iPhone.

4. Tap on the copy icon.

5. The element is copied and displayed in the page setting with the addendum "Paste element".

6. Tap the "Paste element" option to insert the copied page element into the opened page.

**Note**

If the copied page element is to be moved to another page, another page must first be selected.

8.7.15 Copy pages

Each page with all its data can be copied. The advantage is that one can take over a page on which one wants to make only a few adjustments for a different end customer, for example.

1. Select the appropriate profile in the menu column.

The profile opens.

2. Then select the page you wish to copy in the menu column.

The page opens.

3. Tap on the copy icon.
4. The page is copied and the entry "Insert page" appears in the menu column.
5. Tap the "Insert page" option to insert the copied page into the open profile.

**Note**

If the copied page is to be moved to another profile, another profile must first be selected.

8.7.16 Deleting pages

Each page can also be deleted.

1. Select the appropriate profile in the menu column.

The profile opens.

2. Then select the page you wish to delete in the menu column.

The page opens.

3. Tap on the rubbish bin icon.
4. Confirm the message.

The page will be deleted.

8.7.17 Alarms

Alarm messages can be sent to the listed receivers / mobile devices by push messages or e-mail. The alarm messages can be appropriately configured.

A general explanation is provided in the following on how to open and adjust the "Alarms" function. The individual options for adjustment are described in the sub-chapters.

Alarms can be created and managed via the configuration page.

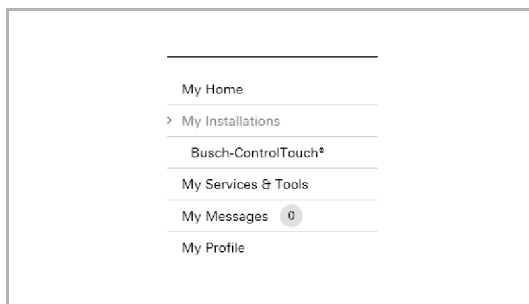


NOTE

Please note that when adjusting an existing alarm, or when an alarm is to be created, access must always take place via MyBuildings . Open the application "Busch-ControlTouch" (path: start page → Service & Tools → MyBuildings → My installations → Busch-ControlTouch®). In case of several devices, select the appropriate device from the list. The adjustments can be made via the "Devices" tab.

8.7.17.1 Opening the configuration page

Open the MyBuildings page and log yourself in.



1. Click on "My installations"
2. Click on "Busch-ControlTouch"

Fig. 95: My installations



Fig. 96: Terminal devices

The available terminal devices are displayed.



3. Click on the icon.

Fig. 97: Icon

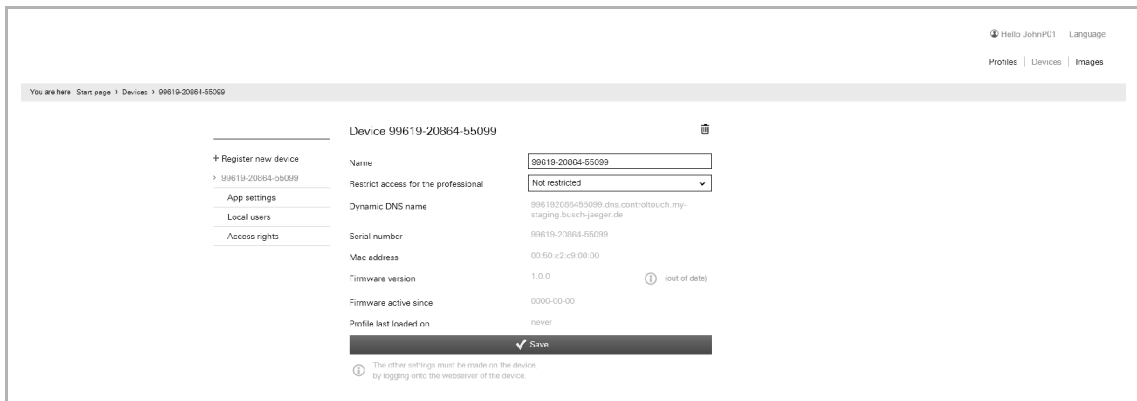


Fig. 98: Configuration page

The configuration page is displayed.



Notice

The user can archive devices and projects by clicking on the archiving function (arrow pointing to archive). This moves the device or project to "Archive" in the menu bar. They will no longer be displayed in the list. Archived devices and projects can still be edited by simply selecting the object under "Archive". The object can then be restored by clicking the archiving function (arrow pointing away from archive).

- The archiving of the device by an expert includes all of the associated projects as well.
- The archiving of the device by an end user includes all of the associated profiles as well.



NOTE

First a profile must be created, see chapter 8.7 "Creating a profile" on page 175.

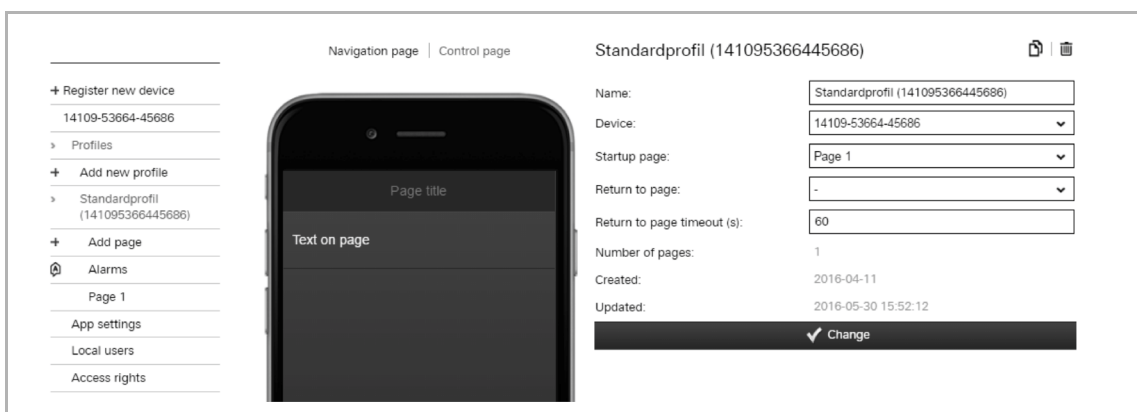


Fig. 99: Profile input field

1. Tap on the appropriate profile in the menu column.

The profile opens.



Fig. 100: Overview of alarms

2. Tap on "Alarms" in the menu column.

The overview of created alarm and their receivers are displayed in an overview list.

8.7.17.2 Overview of alarms

The overview of all created alarms and their receivers is called up as described in the previous chapter.

8.7.17.3 Create and add alarms

Additional arms can be created and added at any time.

1. Open the "Alarms" function.

Fig. 101: Add alarm

2. Tap on "Add alarm" in the menu column.

You can create an alarm and adjust the necessary specifications:

- **Name:** Assign a typical name to the alarm message which describes the alarm situation (e.g. window is open).
- **Message:** Here specify what is to be reported, such as text, values or a date. Also a combination out of all specifications is possible.
- **Max. 1 message all:** Here a time interval can be specified during which periods the alarm is to be sent.
- **Snapshot camera** Here it can be specified whether a snapshot is to be taken when the alarm is triggered. It can also be specified which IP camera is to take the snapshot. The snapshot is then sent via e-mail or Push message when the alarm is triggered.
- **Recipients:**
 - **Type** Selection of whether the alarm is sent as e-mail or push notification.
 - **On** For e-mail → entry of e-mail address; for Push notification → selection of the mobile device
- **Condition (each one triggers an alarm):**
 - **C** Fixing the condition that triggers the sending of the alarm (e.g. HTTP trigger). Further settings are necessary depending on the condition.
 - **on** The conditions are specified via the "Trigger" function during the project settings (see chapter 8.6.8 "Triggers" on page 63).

3. Now tap on the "Adjust and back" button.

The overview list opens again. The alarm message with the assigned specifications appears. Also the name of the created alarm appears in the menu column.

8.7.17.4 Adjust alarm

Existing alarms can be adjusted at any time.

1. Open the "Alarms" function.
2. In the menu column tap on the alarm that is to be adjusted.

The alarm opens. You can now adjust the specifications.

3. Then tap on the "Adjust and back" button.

The overview list opens again. The alarm message with the adjusted specifications appears. Also the name of the created alarm appears in the menu column.

8.7.17.5 Delete alarm

Existing alarms can be deleted again at any time.

1. Open the "Alarms" function.
2. In the menu column tap on the alarm that is to be deleted.

The alarm opens.

3. Tap on the rubbish bin icon.

The alarm is deleted.

8.8 Additional settings (configuration page)

Additional settings for the device can be made via the configuration page.

The following sub-chapters explain the setting options for the menu entries in the menu column (exception: send invitation to end customer).

8.8.1 App settings

The app settings display the access modalities (connecting parameters) between the device and the app. These settings can only be adjusted directly in the device (direct access, see chapter "Settings in the device (direct access)" on page 253) and in the app. They can therefore only be adjusted with the corresponding access rights. The app settings on the configuration page are used for information about the connecting parameters. These can be displayed for all users. A QR code with its values is individually created for each user. This can be read in. It can be used to transmit the data directly to terminal devices. The data is then used immediately in the app.

1. Open the "App settings" function.
2. Click/tap on "App settings" in the right menu column.

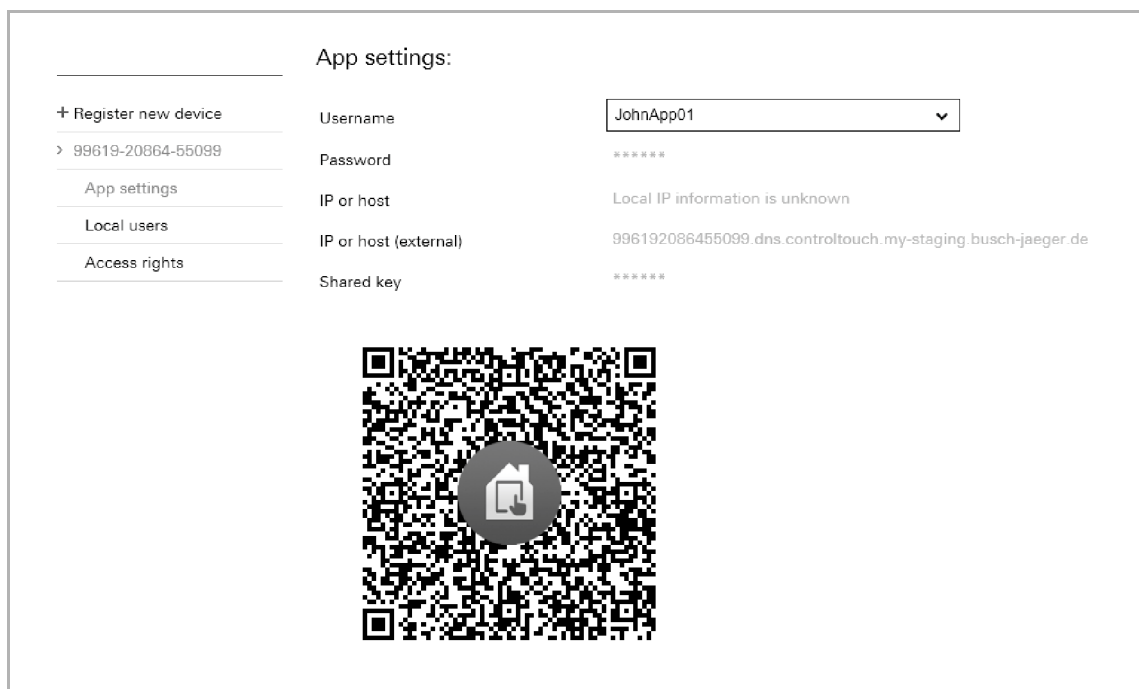


Fig. 102: App settings

3. Now select a user name.



Note

Only activated users can be selected in the app settings.

The connecting parameters of the user are displayed. A corresponding QR code is created automatically.

8.8.2 Local users

The configuration page is used to specify which user of the device and the app has which access rights. That is why users can be created and administered. The user administration can only be carried out by the "Professional/Administrator" role. This role is created automatically for the fitter who commissions and registers the device. A QR code with its values is individually created for each user. This can be read in. It can be used to transmit the data directly to terminal devices. The data are then used immediately in the app.

8.8.2.1 Overview of users

1. Open the "Local users" function.
2. Tap on "Local users" in the menu column.

All created users are displayed in the menu column.

8.8.2.2 Create and add users

Additional users can be created and added at any time.

1. Open the "Local users" function. To do this, proceed as described in Chapter 8.8.2 "Local users " on page 238.
2. Click/tap on "Add new one" in the right menu column.

Fig. 103: Local user

3. You can create a user and adjust the necessary specifications:

- **User name:** Enter the name of the user.
- **Password:** Specify a password here for the access.
- **Password (repeat):** The password must be repeated here.
- **Role:** Here the role which has been specified under the "Access rights" function can be selected (with the exception of Professional/Administrator → this role has been fixed and cannot be changed). A role includes a package of access rights.
- **Activated:** The user can also be deactivated after being created. The user therefore does not need to be immediately deleted, for example.
Only activated users can be selected in the app settings.

4. Now click/tap on the "Save" button.

The newly created user is added in the menu column.



Note

A QR code with its values is individually created for each activated user. This can be read in. It can be used to transmit the data directly to terminal devices. The data is then used immediately in the app.

8.8.2.3 Adjust users

Existing users can be adjusted at any time.

1. Open the "Local users" function.
2. In the menu column tap on the user that is to be adjusted.

The user opens. You can now adjust the specifications.

3. And finally, tap on the "Save" button.

8.8.2.4 Delete users

Existing users can be deleted again at any time.

1. Open the "Local users" function.

Proceed as described in Chapter 8.8.2 "Local users" on page 238.

2. In the menu column click/tap on the user that is to be deleted.

The user opens.

3. Click/tap on the rubbish bin icon.

The user is deleted.

8.8.3 Access rights (roles)

So-called "Roles" can be created and managed via the configuration page. A role includes a package of access rights. These roles in turn can be assigned to a user. The administration of the roles can only be carried out by the "Professional/Administrator" role. This role is created automatically for the fitter who commissions and registers the device. The "Professional/Administrator" role is fixed automatically and cannot be changed.

8.8.3.1 Overview of roles

1. Open the "Access rights" function.
2. Tap on "Access rights" in the menu column.

All created roles are displayed in the menu column.



Note

Users with limited access rights will receive a warning in the app if they attempt to perform an action for which they do not have the necessary access rights.

8.8.3.2 Create and add roles

Additional users can be created and added at any time.



NOTE

The "Standard" role is created automatically! It includes the most important basic settings and cannot be deleted.

It can, however, be copied via the "Copy icon" at the top right and then be edited like a new role. Also all newly created roles can be copied in this way. The copy is marked with a star in the right menu column.

1. Open the "Access rights" function.
2. Click/tap on "Add new ones" in the right menu column.

Access rights		Read Access	Write Change	Exceptions
+ Register new device				
> 99619-20864-55099	Service			
App settings	Local web login	<input type="checkbox"/>	<input type="checkbox"/>	
Local users	App access	<input type="checkbox"/>	<input type="checkbox"/>	
> Access rights	Profiles	<input type="checkbox"/>		
+ Add new	Scenes	<input type="checkbox"/>	<input type="checkbox"/>	
Standard / default	Time switch	<input type="checkbox"/>	<input type="checkbox"/>	
	Alarm log	<input type="checkbox"/>		
	Triggers	<input type="checkbox"/>		
	Scripts	<input type="checkbox"/>		

Fig. 104: Access rights

3. You can create a role and adjust the settings.
 - Name: Enter the name of the role.
 - Exceptions: Here, for example, it can be specified that an access right is to apply only for a specific scene. This can be precisely fixed.
 - For specific functions / applications of the configuration page there are either read rights and/or write rights. This is fixed. It can only specified whether the rights are activated or not. For this the box must be appropriately clicked/tapped.
4. Now click/tap on the "Save" button.

The newly created role is added in the right menu column.

8.8.3.3 Adjust roles

Existing roles can be adjusted at any time.

1. Open the "Access rights" function.
2. In the menu column tap on the role that is to be adjusted.

The role opens. You can now adjust the specifications.

3. And finally, tap on the "Save" button.

8.8.3.4 Delete roles

Existing roles can be deleted again at any time.

1. Open the "Access rights" function.
2. In the menu column click/tap on the role that is to be deleted.

The role opens.

3. Click/tap on the rubbish bin icon.

The role will be deleted.

8.8.4 Sonos settings

Settings to Sonos devices can be made via the "Sonos settings" configuration page. You can create Sonos groups and add participating devices to each group. In addition, you can create and configure Sonos audio clips. The configured audio clips can later be assigned to devices and certain triggers (e.g. alarms). The individual options for adjustment are described in the sub-chapters.

8.8.4.1 Sonos groups

In the Sonos settings you can create and edit Sonos groups for specific scenarios at any time. To do this, add the devices of a group and name them.

1. Open the "Sonos settings" function.
2. Then open the "Sonos group" function.
3. In the right column of the menu, click/tap on an existing group or on "Add group".

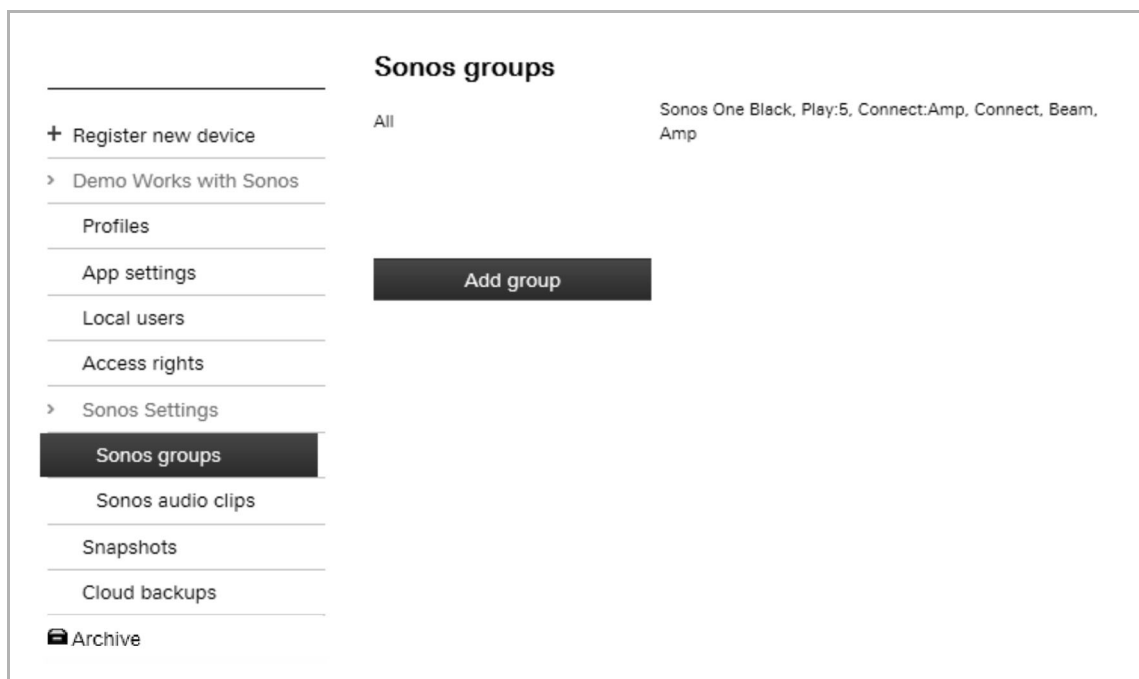


Fig. 105: Add group

4. You can create a predefined Sonos group via a trigger, a scene or a command. You have the following configuration options:
 - Group name: Enter the name of the Sonos group.
 - Sonos members: In column "Devices not in the group", click/tap on all devices that are taken up into the group. The selected devices are immediately listed in the "Devices in group" column. Click/tap on a device in the "Devices in group" column to remove it from the group.

Group name

Sonos members

Devices in group

- Kitchen

Devices not in group

- B235
- Livingroom
- Komfort
- Sonos rechts
- Sonos links

Apply **Cancel**

Fig. 106: Sonos members

5. Now click/tap on the "Apply" button.

The newly created Sonos froup is added in the right menu column.

8.8.4.2 Sonos audio clips

Audio clips can be activated via a trigger, a scene or a command sender and played via a corresponding loudspeaker.

You can create and edit Sonos audio clips at any time. You can import an own MP3 file or output written text via a Microsoft voice service.

1. Open the "Sonos settings" function.
2. Then open the "Sonos audio clips" function.

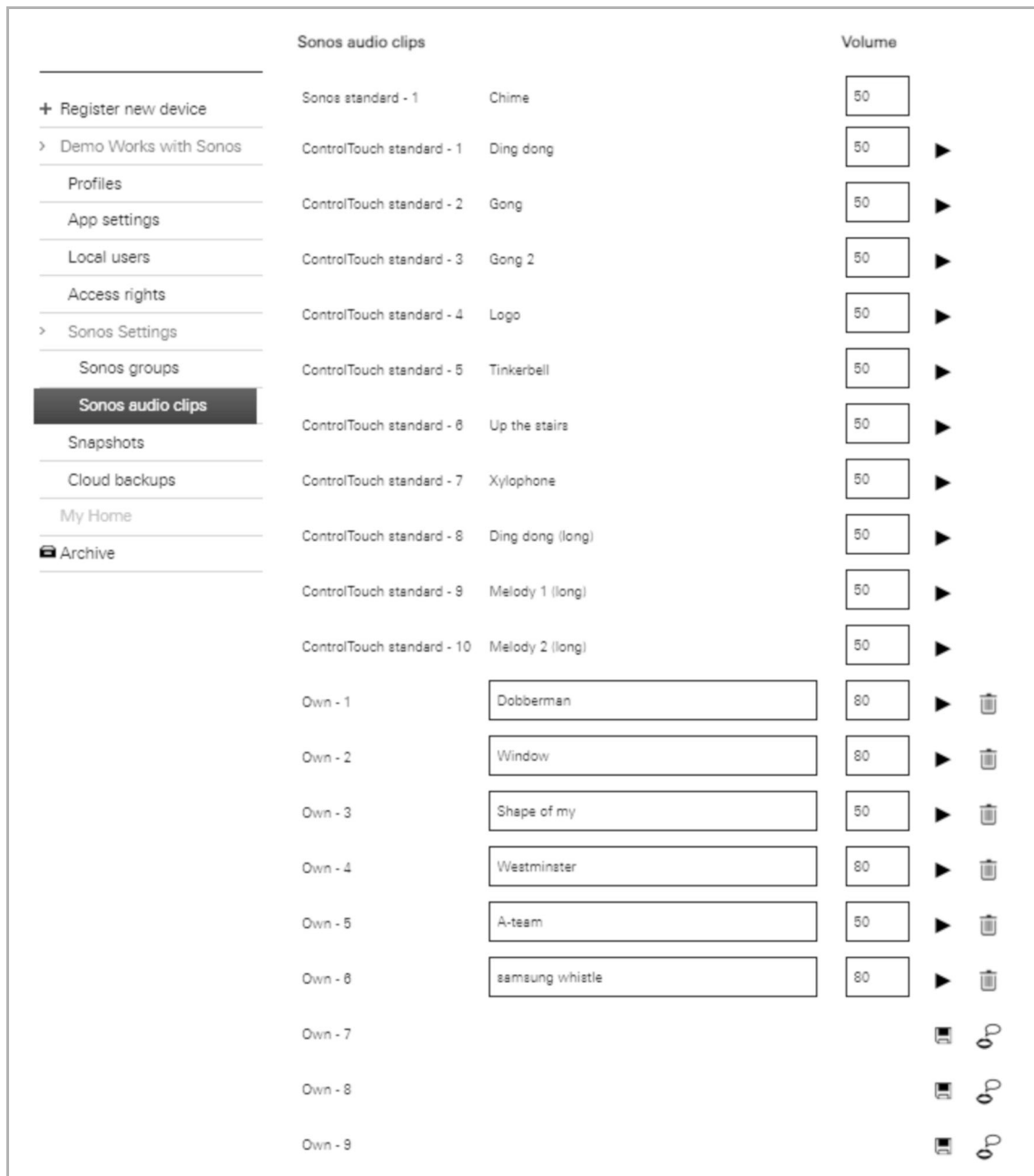


Fig. 107: Sonos audio clips

3. You can adjust the volume of existing Sonos audio clips and create and edit up to 30 of your own Sonos audio clips.

The process is described in the following:

MP3 Import

You can import existing MP3 files as audio clip.

1. Click/tap on the floppy disk icon.
2. Make the necessary settings:
 - Name: Enter the name of the MP3 file to be imported.
 - Select file...: Click/tap on "Select file..." to select an MP3 file.
 - Upload file: Click/tap on "Upload file" to upload the MP3 file.



Notice

The size of ones own audio clips can be up to 2 MB and in MP3 format.

Text for language



Notice

This function can only be used together with new Sonos loudspeakers and SYMFONISK Wifi loudspeakers. Older Sonos loudspeakers such as Play:1 and Play:3 are not compatible with this function.

Via the Microsoft voice services the text for language option can be used to convert text into spoken language and stored as audio clip.

1. Click/tap on the speech bubble icon.
2. Make the necessary settings:
 - Name: Enter the name of the MP3 file to be imported.
 - Text for language: Enter the text that is to be output via Microsoft voice.
 - Voice: Click/tap on the drop-down menu to select an output language and voice.



Notice

The text for language option uses Microsoft voice services. A maximum of 500 characters are admissible.

3. Finally click/tap on "Add".

Adjust volume

1. Click/tap in a field in column volume.
2. Enter a numerical value between 1 and 100 to adjust the volume.
3. Finally, click/tap on the "Save changes" button.



Notice

Later adjustments can be made at any time:

- Delete: Tap on the rubbish bin icon next to the audio clip you want to delete.

8.8.5 Sending an invitation to the customer

The customer can also receive personal access to the configuration of the device see chapter "Sending an invitation to the customer " on page 38). The end customer receives an e-mail with a link for the registration page. For this the fitter must set the sending function in the configuration page.

The screenshot shows the configuration page for a device with ID 14167-22364-80286. On the left is a navigation menu with options like 'Register new device', 'Profiles', 'App settings', 'Local users', 'Access rights', 'ControlTouch Light&Building', 'Mustertafel ControlTouch', and 'Office Light and Building'. The main area displays the following settings:

- Name: 14167-22364-80286
- Dynamic DNS name: 141672236480286.dns.controltouch.my-staging.busch-jaeger.de
- Serial number: 14167-22364-80286
- Mac address: 00:50:c2:c9:f7:0e
- Firmware version: 1.0.0 (out of date)
- Firmware active since: 2016-03-01
- Project in device: Standardprojekt (141672236480286)
- Advanced options:

Below the settings is a 'Save' button with a checkmark. A warning message states: 'The other settings must be made on the device, by logging onto the webserver of the device.' At the bottom, there is an 'Email' input field and a 'Send Invite' button.

Send Invite

1. Enter the valid e-mail address of the end customer in the "E-mail" field.
2. Send the e-mail with the "Send invitation" button.

8.8.6 Snapshots

So-called "Snapshots" can be viewed and managed via the configuration page. Snapshots are pictures that were taken by an IP camera (configured under "IP cameras") at the activation of a previously specified trigger or alarm. At activation you additionally receive a snapshot of the IP camera in the sent Push notifications or e-mail.



Notice

When the maximum number of snapshots has been reached, all previous snapshots are overwritten by the new ones.

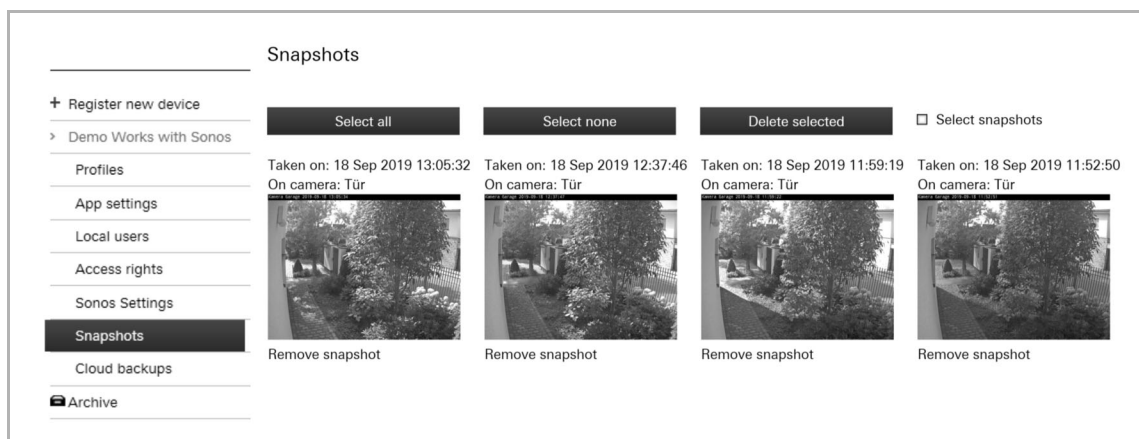


Fig. 108: "Snapshots" function

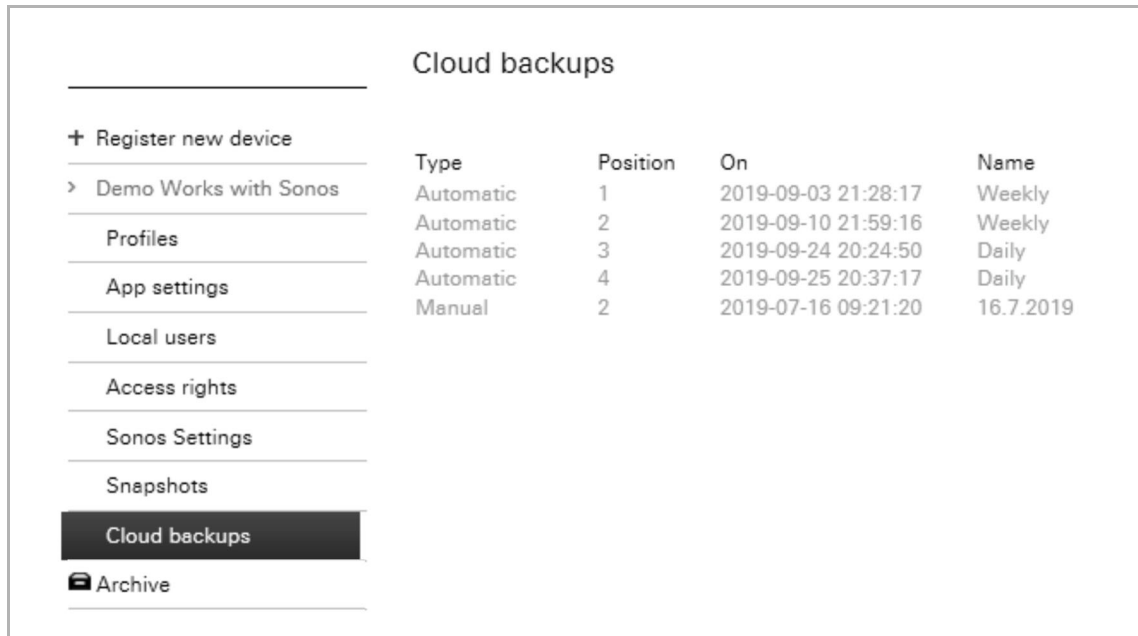
The "Snapshots" function gives you the option of viewing snapshots and deleting surplus snapshots. To do this, proceed as follows:

1. Open the "Snapshots" function.
2. Click on the remove snapshots button to delete individual snapshots. Or, alternatively, perform the necessary actions to delete several snapshots at the same time.
 - **Select all:** Selects all snapshots.
 - **Select none:** Cancels the selection of all snapshots.
 - **Delete selected ones:** Deletes all selected snapshots (selection via "Select all" or "Select snapshots").
 - **Select snapshots:** When activated, a multiple selection of individual snapshots to be deleted can be made.

8.8.7 Cloud backups

All available data in the device are stored under the Cloud backups. This secures all data in case of a failure or a Firmware update. The following data are stored in the Cloud:

- Data logger
- Scene
- Timers
- Presence simulation



Cloud backups				
	Type	Position	On	Name
+ Register new device				
> Demo Works with Sonos	Automatic	1	2019-09-03 21:28:17	Weekly
Profiles	Automatic	2	2019-09-10 21:59:16	Weekly
App settings	Automatic	3	2019-09-24 20:24:50	Daily
Local users	Automatic	4	2019-09-25 20:37:17	Daily
Access rights	Manual	2	2019-07-16 09:21:20	16.7.2019
Sonos Settings				
Snapshots				
Cloud backups				
Archive				

Fig. 109: "Cloud backups" function

The "Cloud backups" function is a Cloud backup option. Within the "Cloud backups" function there is an overview of all Cloud backups. The Cloud backup option has a total of 4 automatic slots in which a Cloud backup is stored twice a day and twice a week. And, in addition, there are 3 manual slots per device.

- Type: Type of the backup slot of the Cloud backup (automatic or manual).
- Position: Position of the Cloud backup.
- Up: Date at which the Cloud backup was created.
- Name: Name of the Cloud backup.

8.8.8 Logging out a specialist's account Confirming the log-in of a specialist

From the configuration page of the device, the end user can force the account of a specialist to be logged out of a device (but only if the end user and the specialist are not the same person). When the device is logged off, the project is copied. This means that the specialist who created the project can still view it, and that a new specialist who is registering their own device can still access it.

When performing a forced log-out, or if the device is no longer logged in by an expert, the end user has the option of deactivating the registration of any specialists (see "Deregister" button). The end user can also reverse the effect of this function if required.



Note

If the specialist intends to log on to a blocked device, the specialist will receive a notification that the device was blocked by the end user.

The screenshot shows a configuration interface with the following elements:

- Text: "Restrict access for the professional"
- Text: "Deregister professional user"
- Dropdown menu: "Not restricted" (with a downward arrow)
- Button: "Deregister" (highlighted in a dark grey box)

Fig. 110: Restricting access to specialists

1. Select the corresponding restriction.
2. Confirm with the "Save" button.
3. The "Deregister" button is used to perform the deregistration.

8.8.9 Creating a widget function for iOS

The iOS app supports widgets. The profile widget can be activated using the "iOS Widget" function.

The first button of the widget is always the link for opening the app.

Additional buttons can be added:

- Send value (identical to button row)
- Blind (up/down + status)
- Switch (on/off + status)
- Call scenario (no status)
- Send command (TCP, Sonos, uPnP, no status)
- Placeholder

The widget can be activated in the iOS device. Then the symbols will be loaded as they were configured in the profile. The widget is connected and the buttons can be used.



Notice

Please note that the response time is somewhat slower than if only the ControlTouch app is used.

1. Open the "iOS Widget" function.

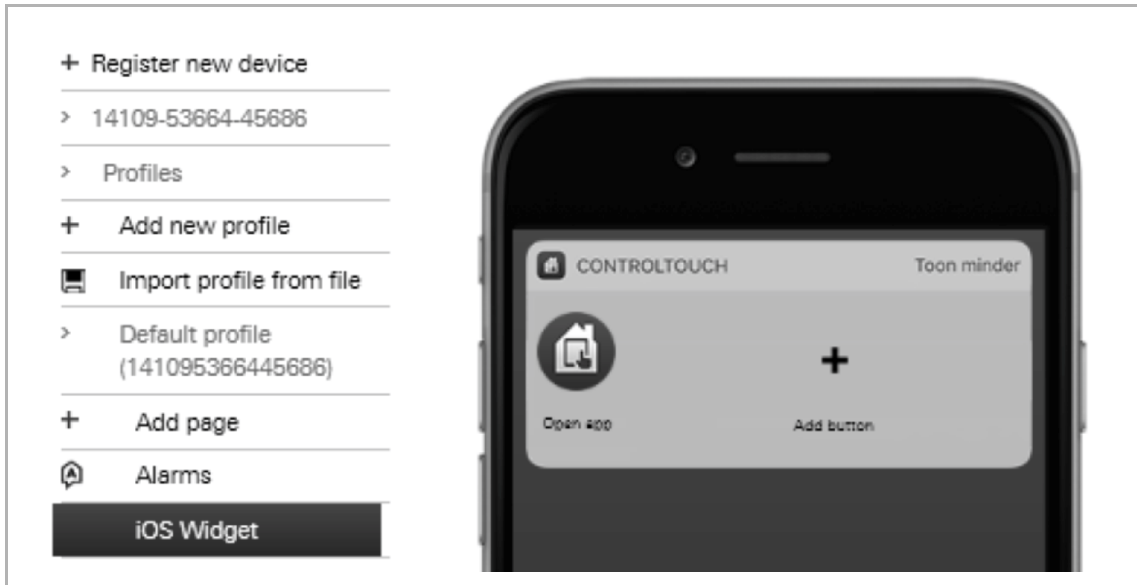


Fig. 111: iOS widget

2. Then click/tap the "+" icon to add a push-button.
3. Select a push-button. Configure the settings for the push-button type (see similar elements).
4. Finally, click/tap on the "Save" button. The push-button will then be displayed in the image of the iPhone.
5. Click/tap the "+" icon to add additional push-buttons.



Notice

The push-buttons can also be deleted. To do this, select the push-button and then click/tap the rubbish bin icon.

8.9 Importing the configuration into the Busch-ControlTouch®

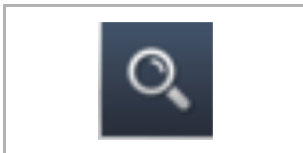
To transmit the settings of the configuration page to a Busch-ControlTouch®, an appropriate connection to the respective device must be available. This connection can be easily created via a special program, the so-called "IP Locator".



NOTE

- The "IP Locator" program (additional software: Locate your Busch-ControlTouch®) must be installed beforehand. It can be downloaded free of charge via the software download page of the e-catalogue (www.busch-jaeger-catalogue.com). During the installation please observe the details specified by the installation wizard.
- An Internet connection must exist for the link. The device must also be integrated in the network.

1. Ensure that the device is connected correctly in the network.



2. Open the "IP Locator" program

Fig. 112: IP Locator



Fig. 113: Connected devices

3. In the window which opens, all devices correctly connected in the network are displayed (the figure shows an example).

4. Select the appropriate device with a double click. The connection is now established and the configuration is transmitted automatically.



Notice

There can also be a deliberate transmission via the "Transmit configuration with push to ControlTouch" button. This is practical especially for all later adjustments. With a correct connection, however, the adjustments are also transmitted automatically.

8.10 Settings in the device (direct access)

Some settings can only be made via direct access to the device. These settings are then available only specially for this device. For this purpose, a corresponding connection to the corresponding device must be available. This connection is created already during the transmission of the configuration to the device. The process is described in detail in Chapter 8.9 “Importing the configuration into the Busch-ControlTouch® “ on page 252. The setting options are explained in the following sub-chapters.

**NOTE**

An Internet connection must exist for the link. The device must also be integrated in the network.

For initial commissioning of the device the process is described in Chapter 8.4.2 “Initial commissioning of device (direct access) “ on page 35.

For all subsequent adjustments a login (access data for app access!) is required.

8.10.1 Global settings

Global settings for the system can be made via "Settings".

Fig. 114: System settings

Details about the mounting position of the device (subsequent adjustments after initial commissioning, e.g. after change of location of the device)

- **Language:** Specifying the language the text is to be displayed in
- **Time zone:** Specifying the time zone.
- **European daylight saving time:** Specifying whether the change from summer to winter time is to take place automatically
- **Latitude:** Specifying the latitude (adjustment via "Others") → Important for the calculation of sunrise / sunset.
- **Longitude:** Specifying the longitude (adjustment via "Others") → Important for the calculation of sunrise / sunset.
- **Location:** Specifying the country and the city (with it also the automatic adjustment of the degrees of longitude and latitude is possible).

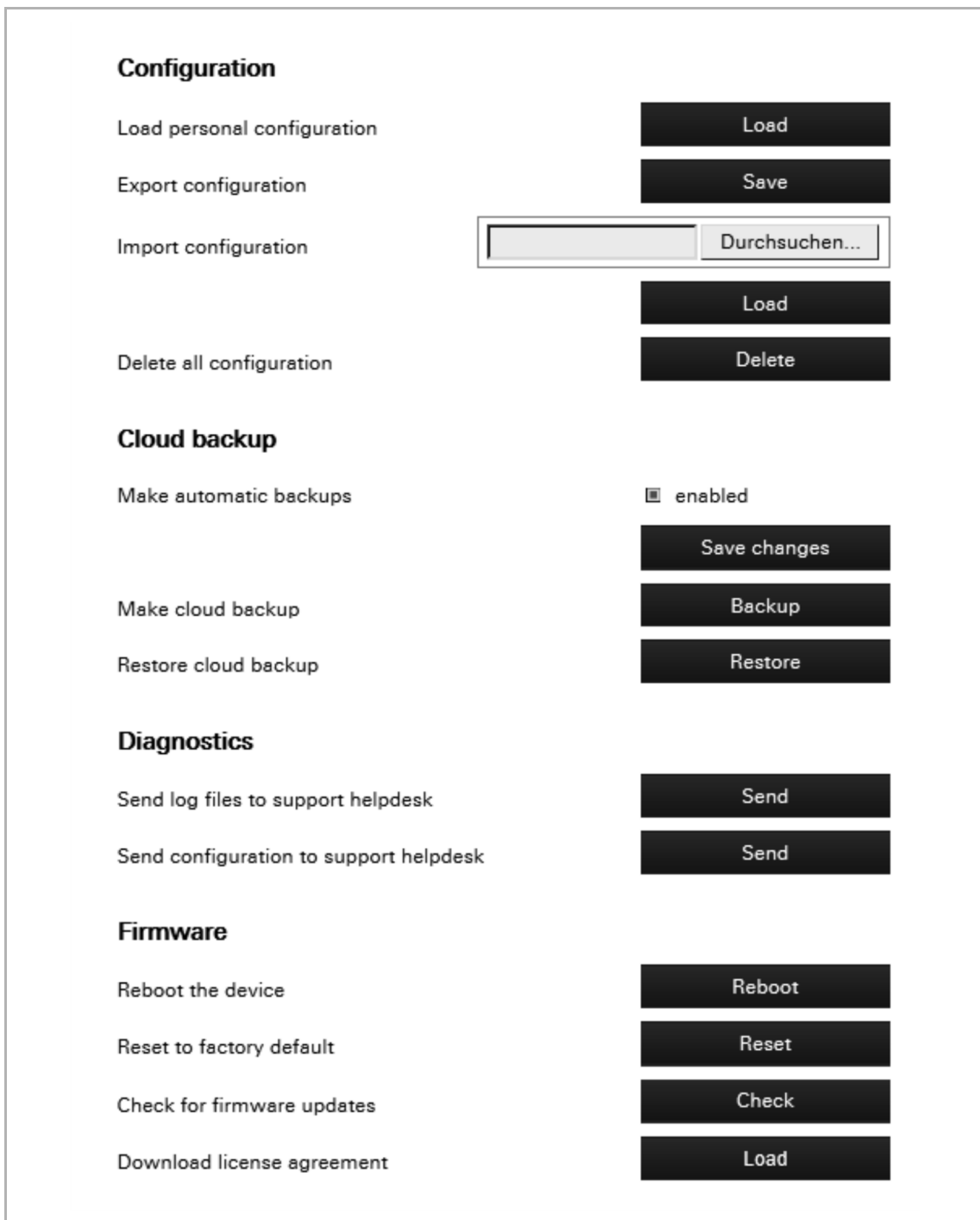


Fig. 115: Configuration, Cloud backup, diagnostics and and Firmware



Notice

You can upload your project and associated profile to the device for local commissioning. No Internet connection required. A small network via which you commission the device is sufficient.

Configuration

- Loading personal configuration (also "Load configuration" button): Loading the data from the configuration page of the device
 - Export configuration: Saving a file with the configuration data. This file can then be imported to other devices via "Import configuration".
 - Import configuration: A configuration file exported from a different device can be imported.
 - Delete entire configuration: All configuration data is deleted.
- Notice**
If you execute the "Delete entire configuration" function, local users will still be able to log on. This ensures that you can continue to log in from your device even without a working Internet connection to the central servers.

Cloud backup

- Creating the Cloud backup automatically: When activated, the Cloud backups are created automatically. When activated, 2 slots with weekly and 2 slots with daily backups are filled.
- Save changes: Takes over changes for automatic Cloud backups.
- Creating Cloud backups: The Cloud backup can also be created manually via the button. There are 3 slots available for manual backups. Each backup can be named individually.
- Restoring Cloud backups: A Cloud backup can be restored, for example, if a device backup has failed.

Diagnostics

- Send log files to support Help desk: The log files are automatically passed on to a service address via the server.
- Send configuration to support Help desk: The configuration data is automatically passed on to a service address via the server.

Firmware

- Rebooting the device: The device can be rebooted.
- Resetting to the factory settings: - The device can be reset to the factory settings.
- Checking for firmware updates: A check for the latest firmware updates can be made.
- Downloading license agreement: The current license agreements can be downloaded.

8.10.2 Status specifications

The current system status can be viewed via "Status". Also the Internet connection can be tested via the "Check Internet connection" button.

Status

Load configuration

- Status
- Scenes
- Time switch
- Alarm messages
- Scripts
- Settings
 - basic
 - protocols
 - system
- Log off

General

Version: 0.5.6

Serialnumber: 14109-53664-45686

Date / time: 2016-05-31 09:55:10

Sunrise: 05:20:48

Sunset: 21:33:46

Network settings

IP address: 192.168.20.184

Netmask: 255.255.255.0

Gateway: 192.168.20.1

DNS: 192.168.20.1

DNS (2):

DNS (3):

DNS (4):

MAC address: 00:50:c2:c9:f5:50

Secondary HTTP port: 8000

Secure application port: 2199

Check Internet connection

Fig. 116: Status



Note

If the time setting is not correct, a sync button is displayed on the status page. This is used to synchronise the time with that of the browser.

For devices which are unable to synchronise the time with the time server, this function can be used to synchronise manually with the browser time. This ensures that device units can function properly even without Internet access.

8.10.3 Optional creation of scenes

Scenes can be created and administered via "Scenes".



NOTE

First the group addresses and components for the scenes must have been created in the ETS.

Create scene

All components which have been allocated to scenes are displayed in the bottom list.

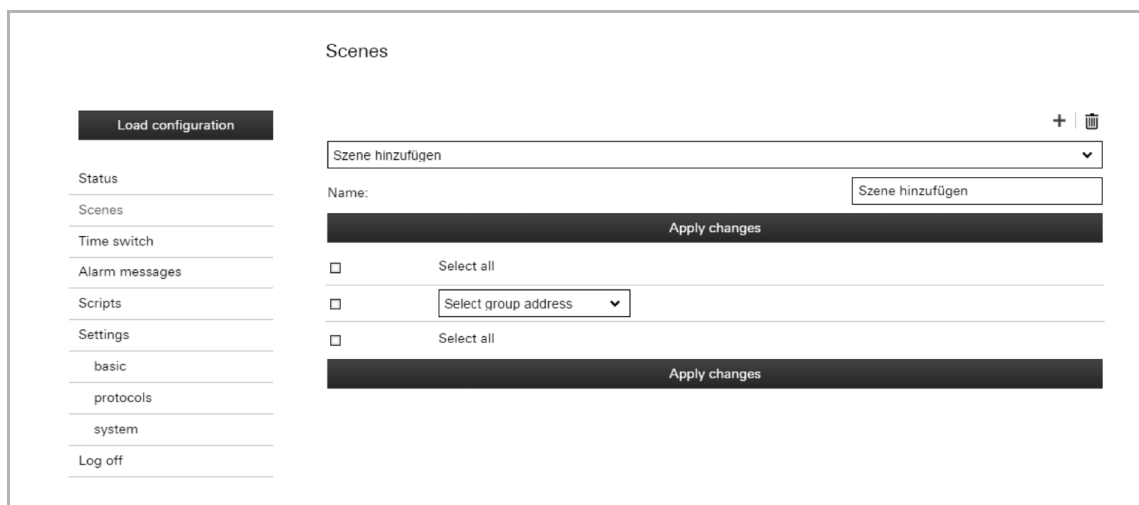


Fig. 117: Scene input field

1. Enter a name in the "Name" field for the scene that is to be created.

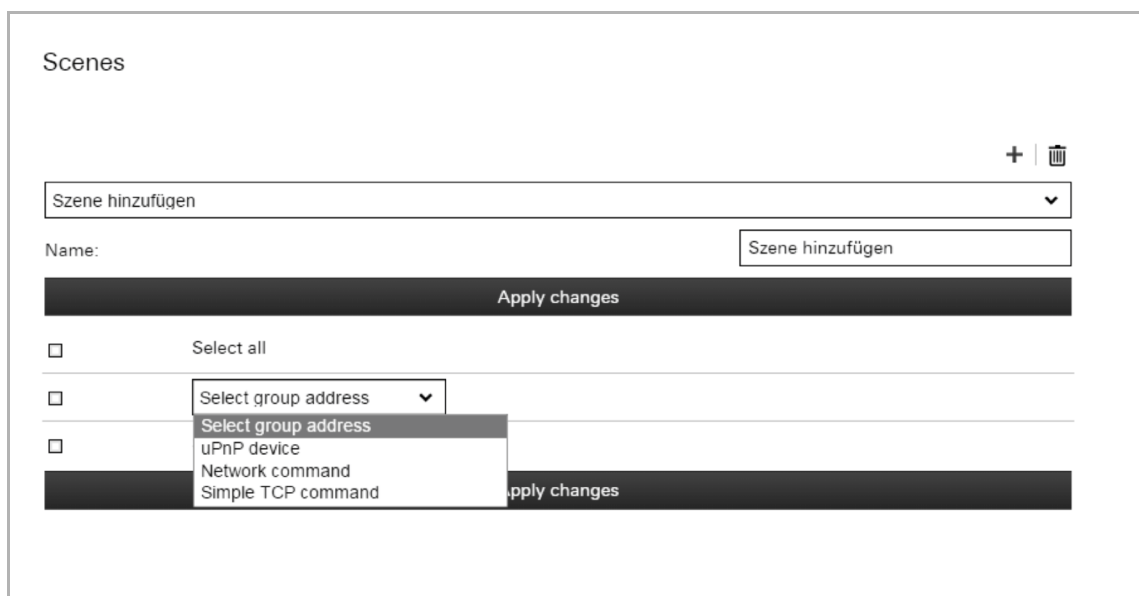


Fig. 118: Scene components

2. You can now filter the list for specific criteria.

In "Select group addresses" only the group addresses for scenes are displayed.

3. Now single components of scenes can be activated and deactivated.

Deactivated components of scenes are then no longer part of the scene. If the "Select all" function is used, then all components can be activated at once.

4. Components of scenes can also be deleted via the rubbish bin icon.
5. Save the adjustments via the "Apply adjustments" button.
6. Then all the activated components of this scene are displayed.
7. Now additional scenes can be created according to this concept via the "+" button.

Adjust scene

1. Use the arrow to select the scene to be adjusted.
2. Now all the components of this scene are displayed.
3. You can now filter the list for specific criteria. In "Select group addresses" only the group addresses for scenes are displayed.
4. Now single components of scenes can be activated and deactivated. Deactivated components of scenes are then no longer part of the scene. If the "Select all" function is used, then all components can be activated at once.
5. Components of scenes can also be deleted via the rubbish bin icon.
6. Save the adjustments via the "Apply adjustments" button.

Delete scene completely

1. Use the arrow to select the scene to be deleted.
2. Delete the scene via the rubbish bin icon.
3. Save the adjustments via the "Apply adjustments" button.

8.10.4 Optional setting of time programs (timer)

Time programs can be created and administered via "Timer".



NOTE

The time programs can also be created and adjusted in the app.

Create time program

The screenshot shows a configuration window for creating a time program. On the left is a sidebar menu with a 'Load configuration' button at the top and several menu items: Status, Scenes, Time switch, Presence simulation, Alarm messages, Scripts, Settings, basic, protocols, system, and Log off. The main configuration area includes the following fields:

- Year:** A dropdown menu set to 'Every year'.
- Month:** A dropdown menu set to 'Every month'.
- Day:** A text input field containing '0', with a checkbox labeled 'Every day' to its right.
- Week day:** A row of seven checkboxes labeled Mo, Tu, We, Th, Fr, Sa, Su, all of which are checked.
- On:** A dropdown menu set to 'Time:'.
- Hour:** A text input field containing '0', with a checkbox labeled 'Every hour' to its right.
- Minute:** A text input field containing '0', with a checkbox labeled 'Every minute' to its right.
- Action:** A text input field containing 'Send date / time' followed by three dots.

At the bottom of the configuration area is a large black button labeled 'Save'.

Fig. 119: Timer

The setting options for the time programs are described in the following section:

- **Names:** Enter a name in the "Name" field for the time program that is to be created.
- **Active:** The time program can already be deactivated or activated here. Whether the time program is deactivated or activated via an object (e.g. with the use of a switch) or manually can be selected via the arrow. If value "0" is sent via an object, then the function is deactivated. If a different value is sent, then the function is activated. The "Value inverted" function changes this behaviour accordingly.
- **Type:** Specifying the time program type. Standard, daily and weekly timers can be created.
- **Year:** Specifies whether the time program is to run each year or only in certain years.
- **Month:** Specifies whether the time program is to run each month or only in certain years.
- **Day:** Specifies whether the time program is to run on a certain calendar day.
- **Daily:** The program runs every day. All weekdays are selected automatically.
- **Weekday:** Specifies whether the time program is to run only on a certain weekday. Several weekdays together can be selected.
- **On:** Specifying when the time program is to start, e.g. at a specific time. Here, among others, the hour and the minute it should start can be specified. However, it can also be specified whether it is to start "hourly" or "every minute". And it can also start at sunrise or sunset (Astro function). For this, also the starting times can be adjusted (e.g. one hour beforehand).
- **Action:** Specifying the action the start of the time program is to trigger. The following options can be specified:
 - Date/time is sent
 - Presence simulation is played/recorded/stopped
 - A scene can be selected
 - Component
 - A script can be selected
 - A command can be defined

Further settings can be made according to the action selected (e.g. On or Off).

1. And finally the time program is saved with the "Save" button.

The time program appears in the overview list.

Further time programs can be created via the "+" button.

Adjust time program

The time programs can be selected in the overview list and adjusted accordingly.

The following adjustments can be made directly in the overview list.

- Deactivation/activation
- Adjustment of start times (also for sunrise or sunset)
- Selection of weekdays

The time program can be called up and adjustments made via the tool icon.

1. And finally the time program is saved with the "On" button.

Delete time program

The time programs can be deleted in the overview list via the rubbish bin icon.

8.10.5 Proxy settings – Internet connection (Port allocation)

The proxy settings can be changed via "Settings - Basis".



Note

The proxy settings should be adjusted only when its is absolutely essential!

Settings basic

Load configuration

- Status
- Scenes
- Time switch
- Alarm messages
- Scripts
- Settings
 - basic
 - protocols
 - system
- Log off

Network settings

DHCP: enabled

IPv4 IPv6

IP address:

Netmask:

Gateway:

IPv4 / IPv6

DNS:

DNS (2):

DNS (3):

DNS (4):

Advanced network settings

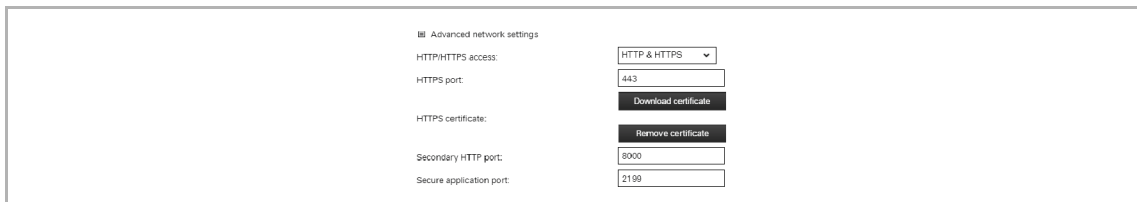
Fig. 120: Network settings

The DHCP function can be deactivated/activated here. Also additional network settings can be made here. For example, a different port can be allocated here. Port "2199" is the secure application port used for connecting the device to the Internet. The device can also be operated via the Internet. The port is specified already in advance. The adjustments must be stored via the "Apply" button.

HTTPS access for local settings

In addition to HTTP (ports 80 and 8000), HTTPS is also available. When starting after an update, the device unit automatically generates a self-signed certificate and facilitates access to HTTPS (standard port 443). Before access is granted, the self-signed certificate must be accepted manually in most browsers.

In "Advanced network settings", users can define whether they wish to use HTTP, HTTPS or both protocols.



The screenshot shows the 'Advanced network settings' interface. It includes a dropdown menu for 'HTTP/HTTPS access' set to 'HTTP & HTTPS', an input field for 'HTTPS port' with the value '443', a 'Download certificate' button, a 'Remove certificate' button, an input field for 'Secondary HTTP port' with the value '8000', and an input field for 'Secure application port' with the value '2199'.

Fig. 121: Advance network settings

Deactivating HTTP also deactivates the secondary HTTP port (standard port 8000). The HTTP port forwarding (8001) is not affected by this function and remains in place. The HTTPS port can also be modified.

The user can download the public part of the HTTPS certificate here in order to manually import it into a browser or OS. Here you can also remove the HTTPS certificate; doing so will revert the access back to the HTTP protocol. The user is then able to generate a new HTTPS certificate.

8.10.6 Integration of UPnP devices

The "UPnP" function can be deactivated/activated via "Settings - Protocols". When the function is activated, UPnP devices are located automatically in the network. They can then be allocated in functions of the Busch-ControlTouch®.

The screenshot displays the 'Settings protocols' configuration page. On the left is a navigation menu with options: 'Load configuration', 'Status', 'Scenes', 'Time switch', 'Alarm messages', 'Scripts', 'Settings' (with sub-items 'basic', 'protocols', 'system'), and 'Log off'. The main content area is titled 'Settings protocols' and is divided into three sections:

- uPnP**: The 'uPnP' status is set to 'Enabled' in a dropdown menu. Below this is an 'Apply' button.
- KNX settings**: The 'KNX protocol' is set to 'Enabled' in a dropdown menu. The 'KNX physical address' is '1.1.255'. The 'Connection method' is set to 'Direct' in a dropdown menu. The 'KNXnet/IP tunnel listen port' is '3671'. Below these fields is an 'Apply' button.
- Hue settings**: The 'IP address of the Hue Bridge' is currently set to '-'. Below this field is an 'Apply' button.

Fig. 122: Settings of protocols

8.10.7 Integration of Sonos devices and systems

The "Sonos" function can be deactivated/activated via "Settings - Protocols". When the function is activated, Sonos devices are located automatically in the network. They can then be allocated in functions of the Busch-ControlTouch®.

Select the respective household under "Household".

Load configuration

- Status
- Scenes
- Time switch
- Presence simulation
- Alarm messages
- Scripts
- Settings
 - basic
 - protocols
 - system
- Log off

Settings protocols

uPnP

uPnP: Enabled ▼

Apply

Sonos

Sonos: Enabled ▼

Household: Sonos Eiw7fX2ZTT(▼

Apply

KNX settings

KNX protocol: Enabled ▼

KNX physical address: 1.1.255

Connection method: Direct ▼

KNXnet/IP tunnel listen port: 3671

Apply

Fig. 123: Settings of protocols (Sonos)

8.10.8 Adjustment of KNX settings

The KNX settings can be adjusted via "Settings - Protocols".

Fig. 124: KNX setting

The following settings can be made:

- **KNX protocol:** Deactivation/activation possible. When activated, the protocol traffic is also displayed under "Status".
- **Physical KNX address:** This shows the current physical address of the device. The device is integrated in the KNX bus system under this address.
- **Connection method:** Here the connection method can be specified.
- **List port:** Here the list port for KNXnet/IP tunneling is displayed. This can be adapted accordingly. The KNX interface can also be enabled via the app without the use of a VPN tunnel.

1. And finally the adjustments are saved with the "Apply" button.

8.10.9 User protocols

"Setting - Protocols" is used to specify the actions that are to be stored in the log file. For this the user protocols can be deactivated/activated. When activated, the protocol traffic is displayed also under "Status".

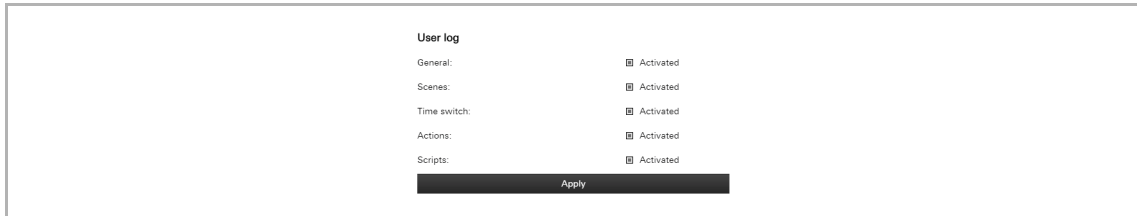


Fig. 125: User protocol

1. And finally the adjustments are saved with the "Apply" button.



Notice

The protocol window (see under "Status") updates every few seconds. Two buttons are also displayed which are used to stop or resume the automatic update.

8.10.10 Granting authorization

Authorization for the renewed access of MyBuildings to the device can be granted via "Settings - Protocols". This is only visible and can only be enabled for an expert access. Normally the authorization is granted automatically during commissioning. It may be, however, that the device was deregistered. Then a new authorization must be carried out.

1. And finally the function must be enabled via the "Authorize" button.

8.10.11 Configuration of Philips Hue

Philips Hue can be configured via "Settings - Protocols".

Fig. 126: Setting protocols

1. Enter the IP address of the Hue bridge.

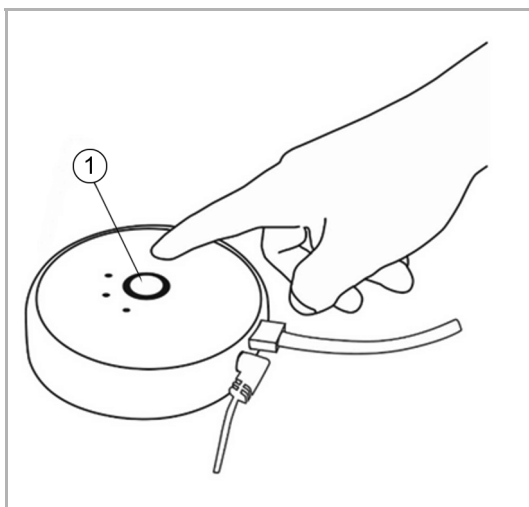


Fig. 127: Phillips HUE push-button

2. Then press the push-button of the Hue bridge.
3. And finally the "Apply" button must be pressed.

[1] Buttons

The following configuration specifications must still be observed.

- All Hue components must have been correctly configured beforehand via the Hue system.
- A Hue component must depict both a sending group address as well as a status group address. This is done according to the following concept:

"HUE:" followed by the lamp number, a "/" and the desired command.

An example: "HUE:1/S" for switching lamp 1 on/off.

The following commands are available:

Switch	S	Switching on/off
RGB illumination	R	Red
RGB illumination	H	Green
RGB illumination	B	Blue
Dimmer	HUE	Hue (colour)
Dimmer	SAT	Colour saturation
Dimmer	BRI	Brightness
Dimmer	CT	Colour temperature

Table 6: Commands for Philips Hue

This allows the command "RGB illumination" to be used to display a specific colour of the Hue lamp. This can also be done via two separate dimmers with "Hue" and "Colour saturation". The colour temperature can be used to influence the "Warmth" of the white light.

8.10.12 Display of available scripts

The available scripts can be viewed via "Scripts". Scripts can also be deactivated/activated via the overview list. Also the status is displayed.

8.10.13 Display of existing alarm messages

Existing alarm messages can be viewed via "Alarm messages". The alarm messages can be deactivated/activated via the overview list. The conditions can additionally be simulated. This allows the alarm message to be tested.

8.10.14 Restart the device

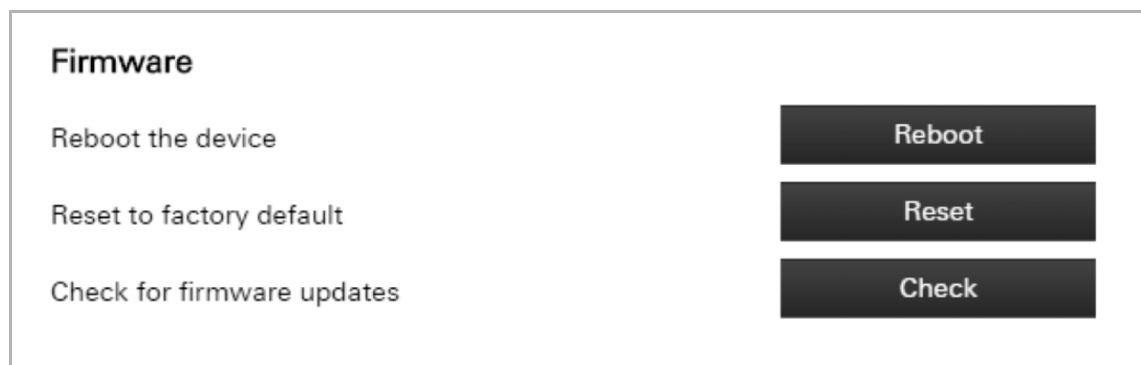


Fig. 128: Restart the device

The device can be restarted via "Settings - System".

8.10.15 Reset to factory settings

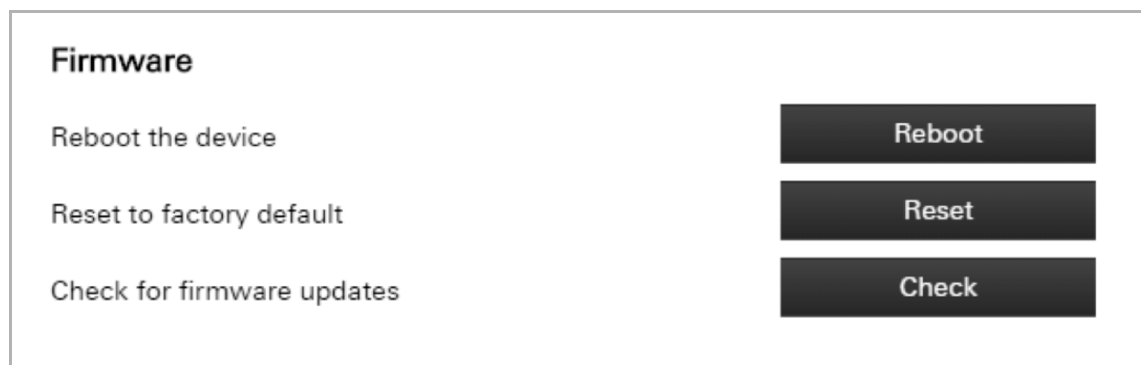


Fig. 129: Factory settings

The device can be reset to the factory settings via "Settings - System".

The presence simulation data and settings are also included in the .xec export file. When resetting a device unit to factory settings and subsequently loading the .xec file, the presence simulation data is also loaded. This also affects recorded telegrams as well as the components selected for the recording.

8.10.16 Activating remote access via MyBuildings

**Note**

This can be used without port forwarding or VPN.

Registration is needed for activation. Please register for the service (register via MyBuildings) before the activation on the device and in the app.

There are three important settings for the activation of the remote access.

First go to the "Basis" page in the device itself in the local web settings. Scroll down until you reach the "Remote access" section. This section will contain two options. The first is to activate general remote access for the device. Activate this feature. You can enable or restrict remote access to your IP camera using the second option. This second option has three different settings:

- No (No access)
- Yes for all (access to all cameras enabled)
- Yes for selected (If you select this option, you can select the corresponding cameras in the list further down)

**Note**

The following inputs are accepted for remote access:

- Full DDNS name (incl. suffix)
- Core DDNS name (first part up to the decimal point)
- Serial number (numeric only)
- Serial number (with hyphens)

8.10.17 Presence simulation – self-learning function

On the "Presence simulation" page, the simulation status can be modified (using the play/record/stop buttons).

Additional functions:

- The number of telegrams recorded each day is displayed.
- In addition, recorded telegrams can be exported (.csv format) or removed.
- Here the components can be selected which will be recorded. All KNX components are displayed here. This also applies to the components that are available for scenes and timers.

If a component is removed from the list, all recorded instances are purged.

Changes to the presence simulation must be confirmed using the "Save" button.

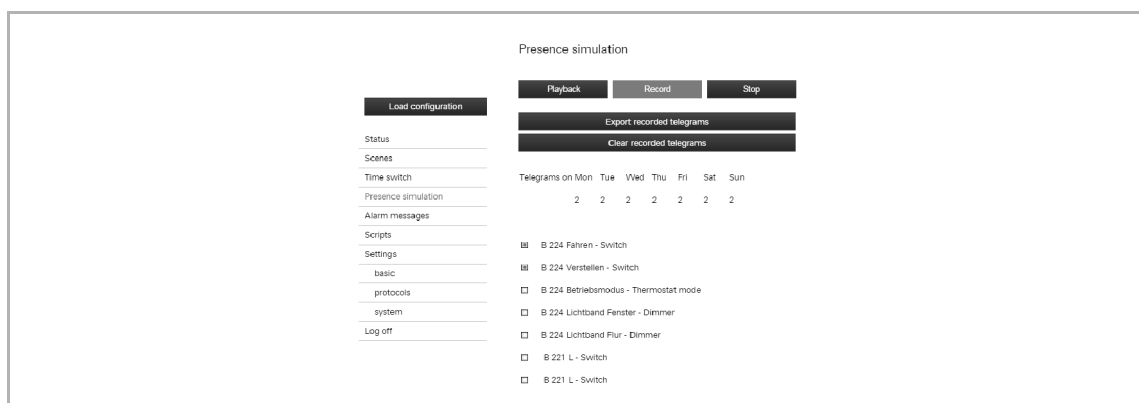


Fig. 130: Presence simulation



Note

- The user can add components (group addresses) to the presence simulation. These are added from the project configuration page (presence simulation settings). The components should first be recorded and played at a later point in time. By default, no components are added and the status of the presence simulation remains the same.
- Telegrams are recorded for each component up to once every minute (last recorded instance) and saved for each weekday. If there is not yet any recordings, the first recording is adopted for all subsequent weekdays. The corresponding recording is then overwritten by recording a newer date. This ensures consistent playback for each day after only 24 hours.
- Telegrams cannot be recorded during playback.
- A maximum of 8000 telegrams can be recorded.
- The status of the presence simulation can also be changed using a timer or a script.
- The presence simulation can also be controlled using the app.

8.11 Installation and setting of the app

The building automation system is controlled directly via the app. It is used, for example, to manually switch lamps on or off.



NOTE

- If the device is integrated in the local network, an Internet connection is not required. It is only required if the terminal device with the app is located outside local network.
- Operation with the app see chapter “Operation of system via the app “ on page 23.

8.11.1 Installation process

1. Load the app from the store onto the mobile terminal device.
2. After the successful installation the icon for the ComfortTouch app is displayed on the desktop of the terminal device.

8.11.2 Start screen after installation

If no account has been set up yet and no profile has been loaded, the Busch-ControlTouch® start screen is displayed instead of an empty profile.

From this screen you can navigate directly to the following features:

- Start demo
- Open user account settings
- Open QR code scanner

8.11.3 Settings

**Note**

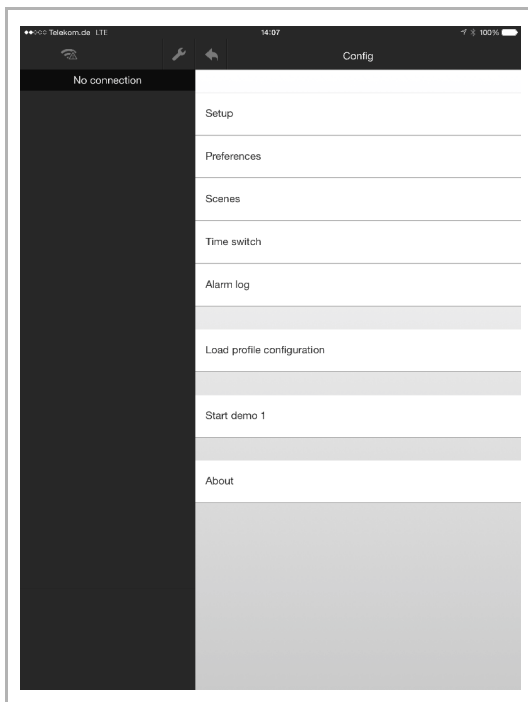
The device must be commissioned and integrated into the network. An Internet connection is required for the access.

Generally the connection with the device happens automatically. A request is then made as to which profile is to be used. Otherwise the connecting parameters must be entered. The following working steps describe how the connecting parameters can be entered manually.

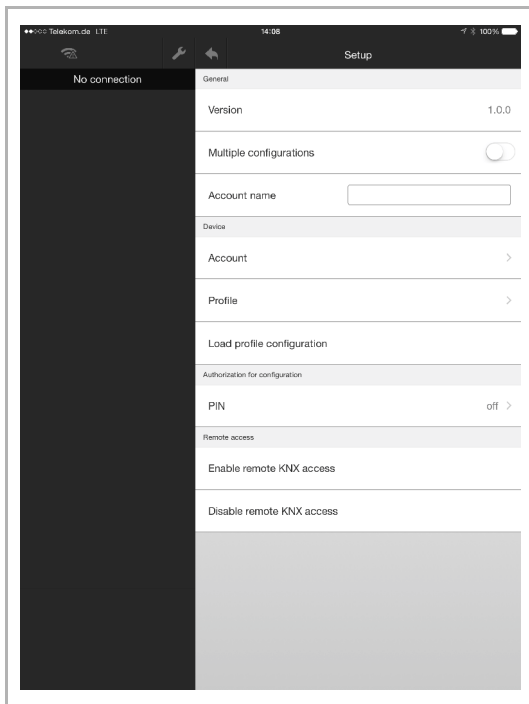
**Note**

The connecting parameters can also be imported directly into the app from the configuration page via the QR code (see chapter “Importing the configuration into the Busch-ControlTouch® “ on page 252)

1. Open the app.
2. Tap on the tool icon. The following window opens:



3. Tap "Settings". The following window opens:

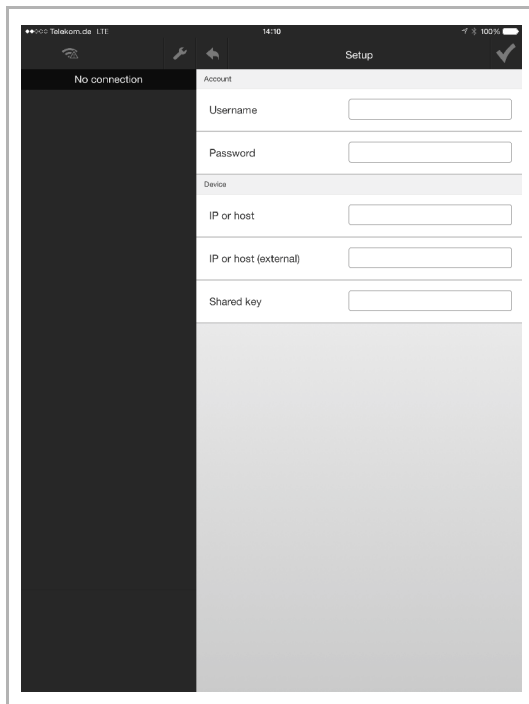


4. Activate "Several configurations" to be able to select up to 5 accounts (configurations). This, for example, allows up to 5 devices to be operated via the device. As an example, the devices are in 5 different buildings.
5. Now select the account. For this there are several options:
 - Selection via scrolling from right to left (via menu page "Configuration")
 - Entry of name in field "Account name" → Here the currently selected account is also displayed.
 - Selection via "Account" (see the following figure). Here the entries must be confirmed with a tick.



Note

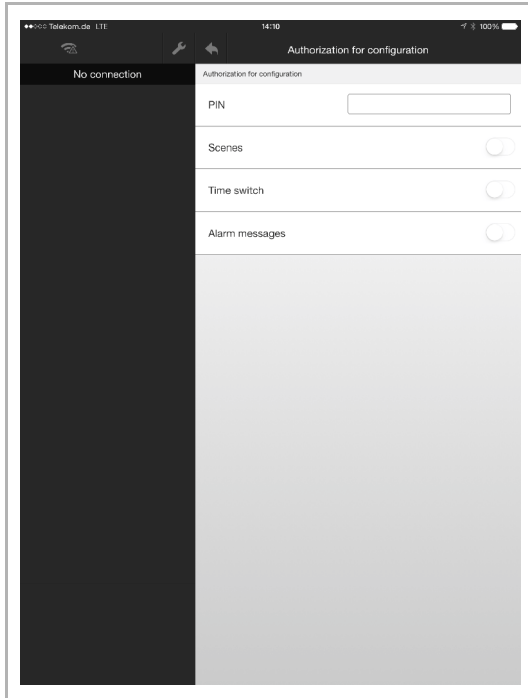
Also additional connecting parameters (access data) can be manually adjusted via an account.



6. Now select the profile. Click/tap on "Profile".
7. Now specify a profile which is to be used by the app. Here the entries must be confirmed with a tick.
8. Now load the configuration profile (→ "Load configuration profile")

Other settings: PIN

"PIN" can be used to specify whether a password is to be entered for the adjustment of functions in the app. The following window opens:



1. Enter a PIN.
2. Additionally specify the functions for which the entry of a PIN is necessary.
3. Here the entries must be confirmed with a tick.

Other settings: PIN menu

From the "PIN menu" you can force a PIN authentication for the main configuration menu. If a general PIN is set up, this can also be activated for the main menu. When users attempt to access the main menu of the configuration, they will be prompted for the PIN.

Other settings: remote access

"Remote access" can be used to specify whether the KNX remote access is deactivated/activated. For activation, the KNX interface is enabled. No VPN tunnel is then necessary for remote access. The access via the app is then enabled for 8 hours.

Other settings: remote access via MyBuildings

After remote access has been activated directly from the device, it must be activated in the app. The remote access service can be used via "Account settings".

**Note**

This can be used without port forwarding or VPN.

Access is indicated by the cloud symbol.

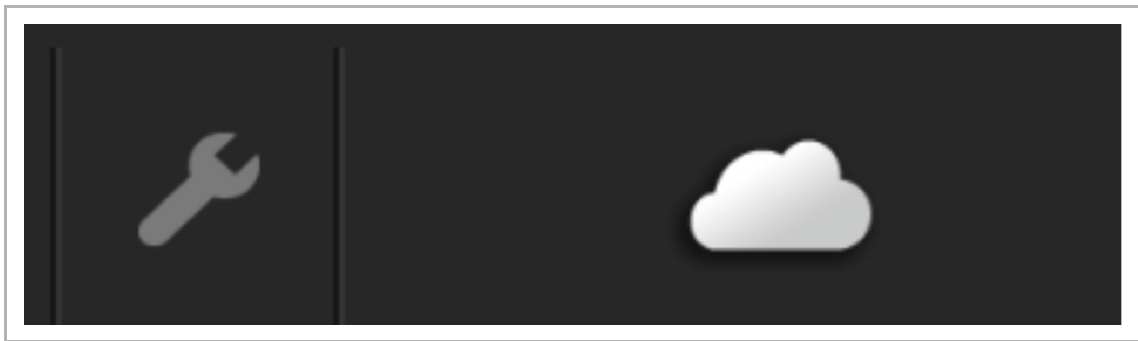
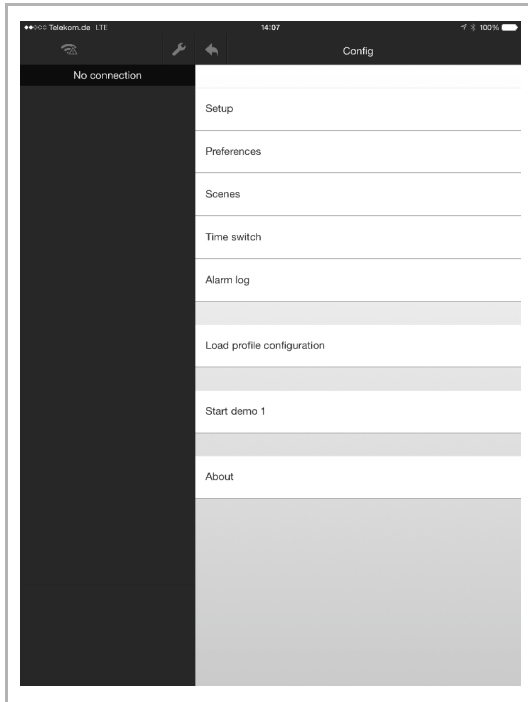


Fig. 131: Remote access

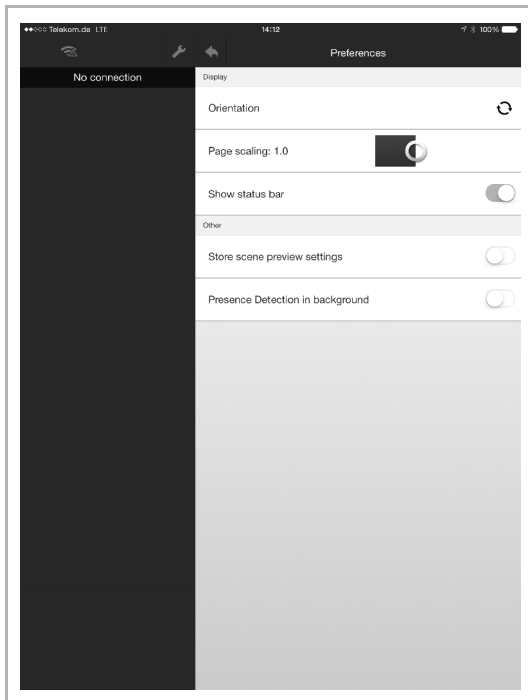
8.11.4 Default Settings

Via "Default settings" the settings for the display and further specifications can be adjusted.

1. Open the app.
2. Click/tap on the tool icon. The following window opens:



3. Click/tap on "Default settings". The following window opens:



4. The following settings can be made for the display (adjustments are taken over immediately!):
 - Alignment: Here it is specified whether the alignment of the app is horizontal or vertical.
 - Page scaling: Here the scaling of the app is specified (0.8 - 1.6 possible).
 - Display status bar: When activated, the status bar of the operating system of the terminal device is displayed (e.g. time display, battery status, etc.)

5. The following additional specifications can be made (adjustments are taken over immediately!):
 - Save scene preview settings: When this specification is activated, the scene preview settings (e.g. activation and deactivation of scene components) which were used during the last call-up of a scene are displayed. This stores the status of the scene. If the specification is deactivated, an individual activation can be carried out when a scene is called up.
 - Presence detection in the background: When this specification is activated, the app checks whether the terminal device is located in the local network. This better supports the "Presence detection" function since the request is more frequent and in the background. This improves the execution of the function. And less energy is consumed.

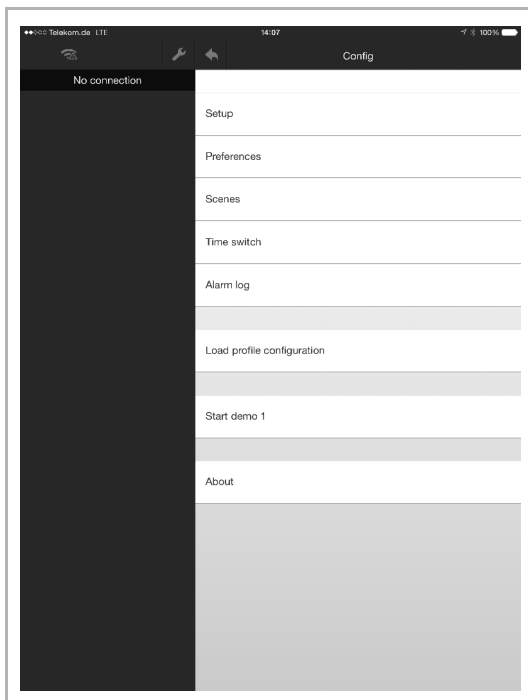
8.11.5 Scenes

**NOTE**

Access can be secured with the entry of a PIN (see chapter “Settings “ on page 274).

By means of scenes the end customer can trigger a whole sequence of actions, with just one press of the switch, for example. The end customer can compile and adjust the scene in the app personally. However, the fitter (expert) must create a basic structure of scenes beforehand to which the Busch-ControlTouch® (building automation system) appropriately responds.

1. Open the app.
2. Tap on the tool icon. The following window opens:



Add scene

1. Tap on "Scenes".
2. Tap on "Add scene".
3. Assign a name.
4. Add scene components
5. Then tap on "Add function".
6. Select a scene component from the list.

In the overview list of the scene the added scene components can now be deactivated/activated by tapping on them directly.

I: Activated
O: Deactivated

Adjust scene

1. To change the name, tap directly on the name of the scene.

The name can now be changed.

2. To deactivate/activate scene components, select the corresponding scene.

The scene components can now be deactivated/activated by tapping on them directly.

I: Activated
O: Deactivated

1. To add scene components, select the corresponding scene.
2. Then tap on "Add function".
3. Select a scene component from the list.

In the overview list of the scene the added scene components can now be deactivated/activated by tapping on them directly.

I: Activated
O: Deactivated

Search option

To find components faster, you can search for components when adding functions:

1. Tap on "Insert function".

All available functions are displayed.

2. Tap on this search line at the top edge of the screen.
3. Enter the name of the searched for component.

The searched for component is displayed under the search line.

**Notice**

If, for example, you search for "Blind", all components that are a blind are displayed.

**Notice**

Components are grouped according to projects to which they have been allocated. By tapping on the "+" icon next to the project a list of all components associated with a project can be displayed. The list of components can be minimized again by tapping on the "-" icon.

Delete scene completely

Deletion is possible only if no group addresses exist!

1. Swipe over the scene entry in the list from right to left.

"Delete" appears.

2. Tap on this button.

The scene is deleted.

Additional functions

1. For a live preview you must select the corresponding scene.
2. Then tap on "Live preview".

A tick is set. Then the scene can be called up via the visualization (user interface). The scene is then replayed directly for test purposes.

1. Tap on the load function.

With this the adjusted or created scenes and their components are loaded from the app to the device.

Teach-in function

Normally, a scene can be modified from the settings menu. With the teach-in function (sending a KNX teach-in telegram) the current scene can be updated using the regular visualisation.

If you press and hold a scene element in the visualisation, the user is prompted to define whether the scene should be updated with the current values. If confirmed, all group addresses or components which are currently included in the scene are updated with the current settings.

**Note**

uPnP/TCP commands and executed scripts are not updated by this action.

8.11.6 Timer – Time programs

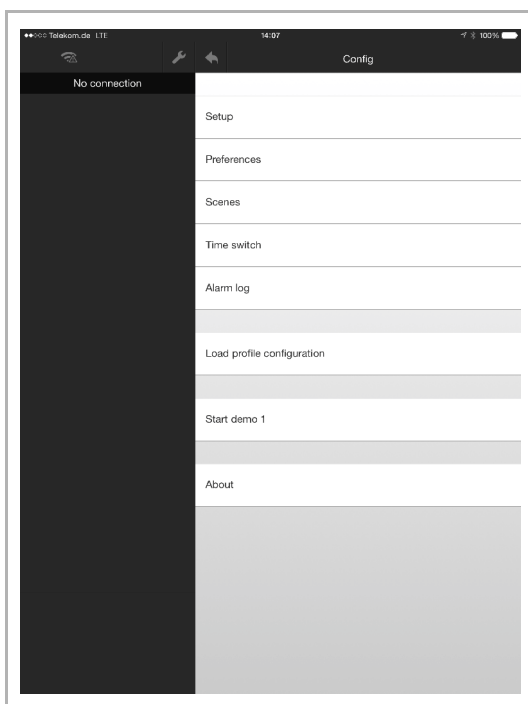


NOTE

Access can be secured with the entry of a PIN (see chapter “Settings “ on page 274).

Here the time programs can be created and administered. Time programs with standard, daily and weekly timers can be created.

1. Open the app.
2. Tap on the tool icon. The following window opens:



1. Tap on "Timer".

All available time programs are displayed in the window.

The colour of the text indicates whether the time program is activated or deactivated, or whether the activity can vary according to timescale.

Red	Deactivated
Green	Active state
Blue	Depending on timescale

Add time program

1. Click/tap on "Insert timer".

The time program can be created in the window.

The setting options are as described in see chapter 8.10.4 "Optional setting of time programs (timer) " on page 260.

Adjust time program

1. Select the corresponding time program.

The time program can be adjusted in the window.

The setting options are as described in Chapter 8.10.4 "Optional setting of time programs (timer) " on page 260 .

Search option

To find components faster, you can search for components when adding functions:

1. Tap on "Insert function".

All available functions are displayed.

2. Tap on this search line at the top edge of the screen.

3. Enter the name of the searched for component.

The searched for component is displayed under the search line.

**Notice**

If, for example, you search for "Blind", all components that are a blind are displayed.

**Notice**

Components are grouped according to projects to which they have been allocated. By tapping on the "+" icon next to the project a list of all components associated with a project can be displayed. The list of components can be minimized again by tapping on the "-" icon.

Delete time program

1. Swipe over the time program entry in the list from right to left.

"Delete" appears.

2. Tap on this button.

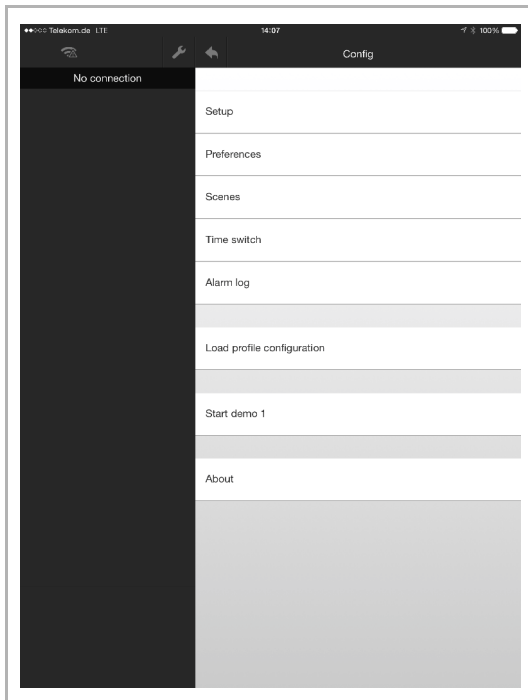
The time program is deleted.

8.11.7 Alarm list

**NOTE**

Access can be secured with the entry of a PIN (see chapter "Settings " on page 274).

1. Open the app.
2. Tap on the tool icon. The following window opens:



1. Tap on "Alarm list" to open it.

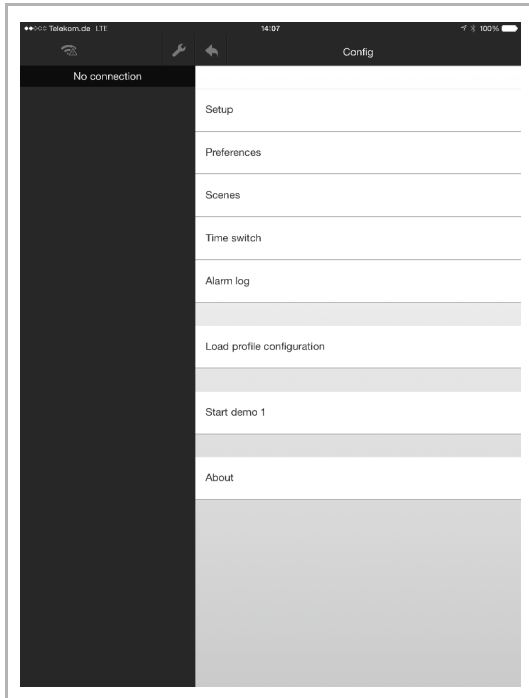
All reported alarm messages are displayed in the window.

**NOTE**

The complete list can be deleted.

8.11.8 Load configuration profile

1. Open the app.
2. Tap on the tool icon. The following window opens:



3. Now load the configuration profile (→ "Load configuration profile")



Note

The profile can be updated at any time by dragging the menu view downwards.

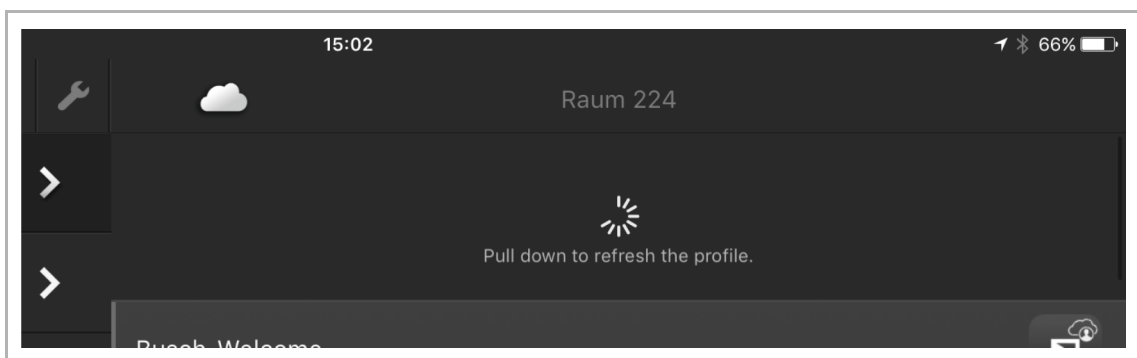


Fig. 132: Dragging the page downwards

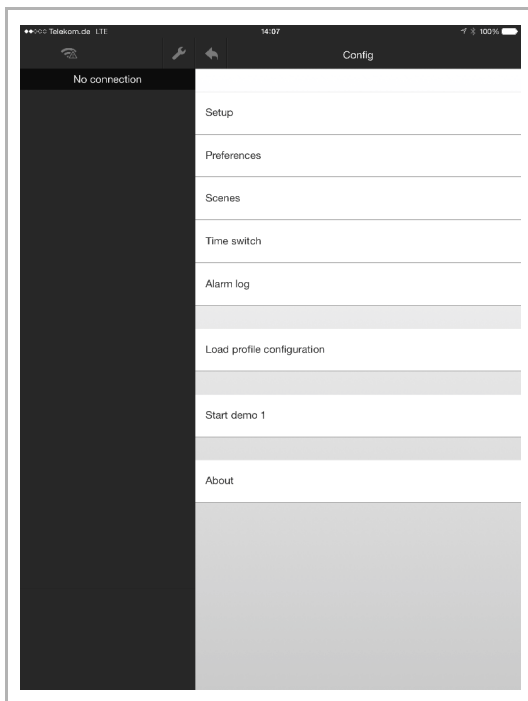
8.11.9 QR code scanner

The "QR scanner" function can be opened from the configuration menu. Using this feature, users can scan a ControlTouch configuration QR code directly for the creation of an account. Once this has been scanned, you will be prompted for a password and the screen is displayed for the user account settings.

1. Open the app.
2. Tap on the tool icon.
3. Tap "QR scanner". The created QR code can be scanned in.

8.11.10 Information on data protection

1. Open the app.
2. Tap on the tool icon. The following window opens:



1. Tap on "About".

Information on data protection are displayed in the window.

8.11.11 Presence simulation



Note

Access can be secured with the entry of a PIN (see chapter "Settings " on page 274)

In the "Presence simulation" menu, the user of the presence simulation can add the components (group addresses) which are recorded for playback later on. All KNX components available for scenes and timers are displayed here.

1. Open the app.
2. Tap on the tool icon.
3. Tap "Presence simulation".

The presence simulation components are displayed in the window.

If a component is removed from the list (to remove, swipe to the left and tap), all recorded instances are removed from this component. Changes to the presence simulation must be confirmed using the "Save" button in the top right-hand corner of the screen.

The user can activate the playback function at the top of the presence simulation menu. Deactivating the playback mode returns the user to the previous mode.

There are two modes: "Record" and "Stopped".



Note

You can switch between "Record" and "Stopped" by accessing the device directly.

If the user opens the app and the presence simulation is set to "Playback", a notification is displayed to the user. The user can then terminate playback directly from this notification.

The status of the simulation can be modified by a timer (see chapter "Presence simulation – self-learning function " on page 272).

Search option

To find components faster, you can search for components when adding functions:

1. Tap on "Insert function".

All available functions are displayed.

2. Tap on this search line at the top edge of the screen.
3. Enter the name of the searched for component.

The searched for component is displayed under the search line.



Notice

If, for example, you search for "Blind", all components that are a blind are displayed.



Notice

Components are grouped according to projects to which they have been allocated. By tapping on the "+" icon next to the project a list of all components associated with a project can be displayed. The list of components can be minimized again by tapping on the "-" icon.

8.12 Installation and setting of the Apple Watch app

The building automation system is controlled directly via the app. It is used, for example, to manually switch lamps on or off. Only the menu pages and screens released for the Apple Watch are displayed in the app.



NOTE

- In addition, the Busch-ControlTouch® app must be installed on a smartphone, for example. This app establishes the connection between Busch-ControlTouch® and the Apple Watch app. The profiles are loaded in this app and transferred from here to the Apple Watch app.
- If the connection between the Apple Watch app and the smartphone is interrupted, a few seconds will pass before this is indicated. The same applies when the connection is re-established.
- As of Chapter 8.11 “Installation and setting of the app “ on page 273, observe the information for installing and setting the app on a smartphone, for example.

Installation process

1. Load the app from the store onto the smartphone.
2. After the successful installation, the icon for the app is displayed on the Apple Watch desktop.

Default settings in the profile

In order for the devices that are integrated into the KNX bus system to be operated directly using the Apple Watch app, the desired functions for Apple Watch must be activated in the profile (default setting). This is used for clarity in the Apple Watch. In this way, you can specify that not all functions can be displayed.



NOTE

Observe the general information regarding the profile settings as of Chapter 8.7 “Creating a profile“ on page 175.

Menu pages and screens can be displayed on the Apple Watch and must be released for this purpose. Here, the "Display on Apple Watch" checkbox must be activated (see the following figure).

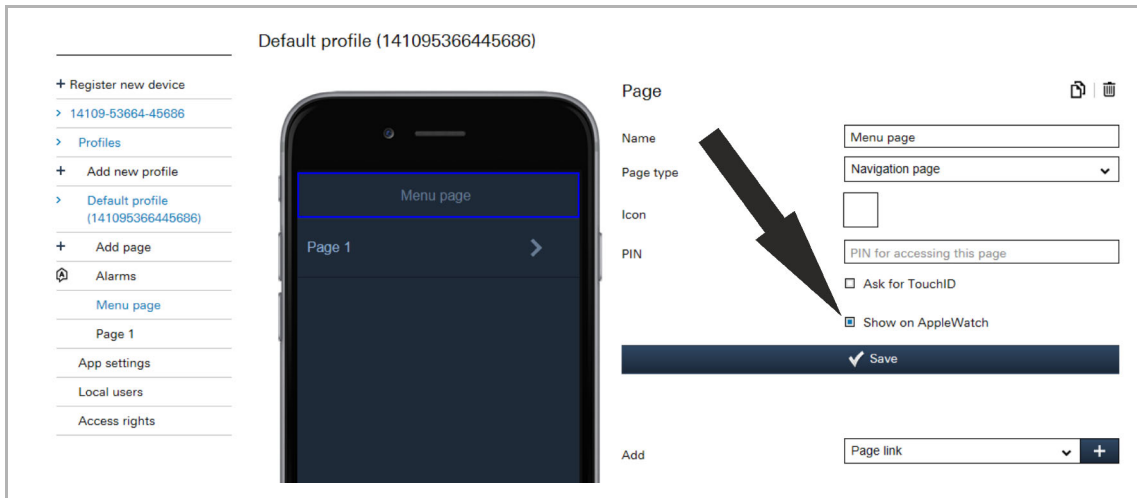


Fig. 133: Apple Watch settings



NOTE

The function is always activated in the basic settings.

Transfer of profiles

After a profile has been loaded in the smartphone app (as an example) (see chapter 8.8.1 "App settings" on page 237), it is directly available on this app.

For the transfer from this app to the Apple Watch app, proceeds as follows:

1. Select the corresponding profile in the smartphone app (as an example).
2. Open the start page (navigation page) of the Apple Watch app.
3. The profile is transferred and/or reloaded by pressing the button and keeping it pressed.

The devices that are integrated into the KNX bus system can now also be operated directly using the Apple Watch app. For this purpose, the desired functions for Apple Watch must be activated in the profile.

8.12.1 Apple Watch complications (QuickStarts)

For the Apple Watch, a complication can be created which can later be added to the watch face. The complication has the same symbol as the app (in black and white). The watch app is started by tapping the symbol.



Note

The settings are configured in the Apple Watch (in the "Complications" menu).

8.13 Delete device

**Note**

Please note that when adjusting a device, access must always take place via MyBuildings . Open the application "Busch-ControlTouch" (path: start page -> Service & Tools -> MyBuildings -> My installations -> Busch-ControlTouch®).

In case of several devices, select the appropriate device from the list. The device can be deleted via the "Devices" tab. The rubbish bin icon must be used.

**Note**

The profiles, however, can be retained and then allocated to other devices.

**Note**

If a device was logged off via direct access but is still displayed in MyBuildings, the device can then be automatically logged off again in MyBuildings by clicking "OPEN" in MyBuildings.

This re-synchronises both environments.

9 Updating options

9.1 Firmware update



NOTE
For this, direct access to the device is required (see chapter “Settings in the device (direct access) “ on page 253).

The firmware can be updated via "Settings - System".

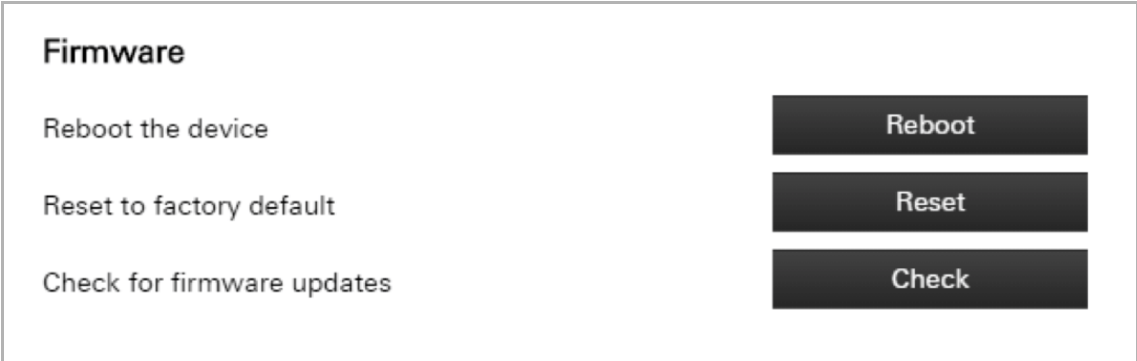


Fig. 134: Firmware update

1. Tap on the "Search" button.

The search process starts.

If an update is available, it will be loaded automatically to the device.

And finally the device is restarted automatically.

9.2 Firmware update via remote control



Notice

For this, direct access to the device is required (see chapter 8.10 "Settings in the device (direct access)" on page 253).

An update of the device Firmware can also be made via the "Devices" tab (path: Devices -> Busch-ControlTouch®). The "Request" button in the bottom area of the start page of the device shows when a new Firmware is available.

Device IFA 2019

Name: IFA 2019

Dynamic DNS name: 141208686692186 .dns.controltouch.my-staging.busch-jaeger.de

Serial number: 14120-86866-92186

Mac address: c0:d3:91:90:01:21

Firmware version: 1.2.68 (update available)

Firmware active since: 2019-09-06

Project in device: IFA2019

Advanced options:

Save

The other settings must be made on the device, by logging onto the webserver of the device.

Link to local settings: <http://192.168.177.41/> <https://192.168.177.41/>
(only works on your local network)

Firmware update

Request device to update firmware: Request

Fig. 135: Update via remote access

1. Tap on the "Request" button.

The device is requested to update the Firmware.

The update file will then be loaded automatically to the device.

And finally the device is restarted automatically.



Notice

Ensure that the device is not switched off during the Firmware update.



Notice

You can only update the Firmware at this point when the remote access has been activated. If the device is not connected with the remote access, it can take up to an hour until the update is started.

10 Maintenance

The device is maintenance-free. In case of damage, e.g. during transport or storage), do not perform repairs. Once the device is opened, the warranty is void.

Access to the device must be guaranteed for operation, testing, inspection, maintenance and repairs (according to DIN VDE 0100-520).

10.1 Cleaning

Clean dirty devices with a soft dry cloth.

- If this is insufficient, the cloth can be moistened slightly with a soap solution.

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