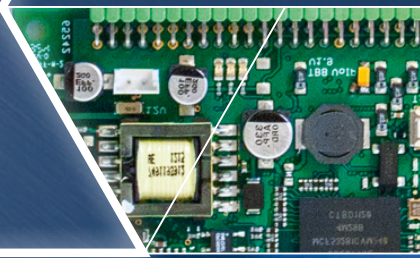
Telecom Behnke

Edles Design, genial in Funktion!



Version 1.2

INSTRUCTIONS

GB Behnke indoor station with 7" touch display 43-9622

Important Information

Please note that Behnke intercoms, Behnke indoor stations, and accessories may only be installed and serviced by qualified electricians, IT and telecommunications technicians who comply with the corresponding standards and regulations. Before carrying out service and maintenance work, please ensure that the devices are safely disconnected from the power grid (unplug power supply unit/PoE injector) and are disconnected from any other network and that all relevant safety regulations will be maintained.

Prolonged exposure to direct sunlight can cause the device to heat up considerably, especially in the case of devices with a dark front panel or if the device is installed in an insulated wall. In such a case, the device must be allowed to cool down sufficiently before removal. Be especially careful when touching the electronics housing! Please hand over this manual with the corresponding information about the intercom station to your customer.

To avoid security risks and unauthorised access, it is strongly recommended that you change the default passwords and codes and deactivate any functions that are not required.

Further legal information can be found in the technical data from page 76.

CONTACT

Information
For detailed information on our products, projects and services:
+49 (0) 68 41/81 77-700

24-hour service:
Do you need help? Feel free to contact us 24/7. We will be happy to assist you with any technical questions you may have and we will also help you getting set-up:
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CONTENTS

1. INTRODUCTION

1.1. What's in the box

- 43-9622 Behnke indoor station with 7" touch display
- These instructions

1.2. General information

Performance Features

The Behnke indoor station with 7" touch display (43-9622) is a high-quality indoor intercom that can be operated via LAN (network connection) in conjunction with Behnke hybrid intercom stations (SIP 3.0), Behnke SIP 2.0 and SIP 1.0 door intercom stations.

The Behnke indoor station can be used in various operating modes. The indoor station can be operated as a SIP telephone on a SIP server, the indoor station can be operated peer-to-peer via IP address dialling or as an IP intercom station. The IP intercom function is only possible with a Behnke hybrid station (SIP 3.0). The Behnke indoor station can be used in conjunction with older SIP intercom stations (SIP 1.0 and SIP 2.0) both in conjunction with a SIP server and in peer-to-peer mode via IP address selection.

This indoor station serves as a remote station for one or more Behnke hybrid intercom station (also in IP intercom mode) or other Behnke SIP intercom stations for displaying a video stream and communicating with the persons who are in front of the outside intercom station and to control one of the two relays located on the Behnke outside intercom station.

Additional functions such as the integration of a floor button or the control of a floor door opener can be mapped with the indoor station.

The Behnke indoor station is powered via the network infrastructure (LAN) using PoE Class 0 (IEEE 802.3af).

System requirements

Connecting the indoor station to the network

- Network infrastructure with PoE Class 0 up to the Behnke indoor station
- Network-compatible PC in this network (for configuration purposes)
- SIP account, SIP server, when operating as an IP intercom station (when operating different door intercom stations), depending on the application

Installation conditions

The perfect installation height for your device is a position that enables operating the indoor station at a distance of 30-50 cm so the user can easily speak into the microphone.

Maintenance and Care
You have chosen high-quality Behnke products with front panels made from various materials. All materials should be cleaned with a suitable cleaning agent in regular, sufficiently short intervals, depending on the material.
This prevents early ageing and patina formation on the surface. You can find the corresponding care instructions for surfaces delivered by Behnke on our homepage:
www.behnke-online.de/downloads/pflege-hinweise

Original Behnke components
Please only use Behnke components for accessories or spare parts – this also applies to POE injectors! This is the only way to ensure trouble-free operation. Only install or assemble the electronics in the supplied housings.
If mounting the electronics board in a third-party housing or a housing other than the one provided, we cannot guarantee functioning and approval of your Behnke intercom stations with : in the web frontend configuration steps.

Configuration
During operation as an indoor station, configuration is carried out via the web frontend (see page 4 for system requirements) or via the touch interface of the indoor station itself. Information on operation, configuration, technical data can be found in the detailed technical manual for the Behnke indoor station (Behnke Wiki or web frontend of your indoor station).

Further important information on configuration can be found in the respective configuration steps (only in the web frontend) in the symbols marked with a ?.

password: admin

Regulations
Please observe the relevant regulations for the installation of telecommunications and electrical systems and the valid, current standards and rules of network technology!

2. MOUNTING

Note: Dimensioning and installation sketches can be found at www.behnke-online.de/bemassung

2.1. Indoor station wall mounting

The appropriate Behnke wall bracket (43-9624) is always required for wall mounting the indoor station.

When choosing the installation location, please note that direct sunlight and a different installation height of the indoor station (see technical data for the indoor station opening angle) can affect the quality of the video stream displayed and the audio connection.

For wall mounting, a flush-mounted switch box/ junction box (68 mm) with a depth of at least 65 mm must be provided.

Detailed information on this can be found on the following pages.

The network cable (Cat. 5 and higher) must be inserted into the flush-mounted box, terminated with a keystone adapter and connected to the indoor station using the short patch cable included in the scope of delivery.

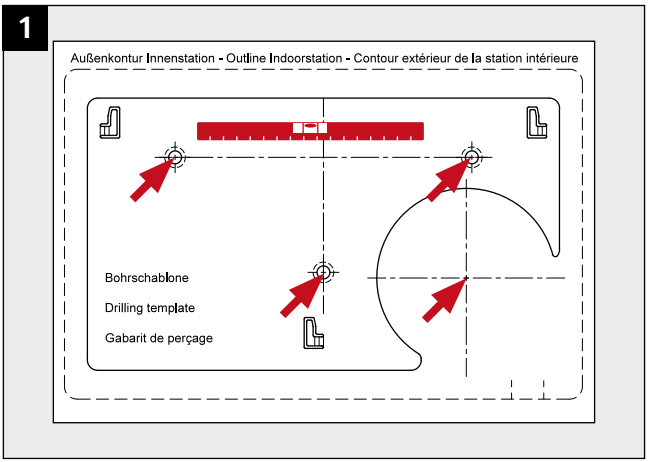
Alternatively, the network cable (wires 1/2/3/6) can be connected directly to the indoor station using screw terminals.

In this case, appropriate strain relief should be provided on site in the flush-mounted box.

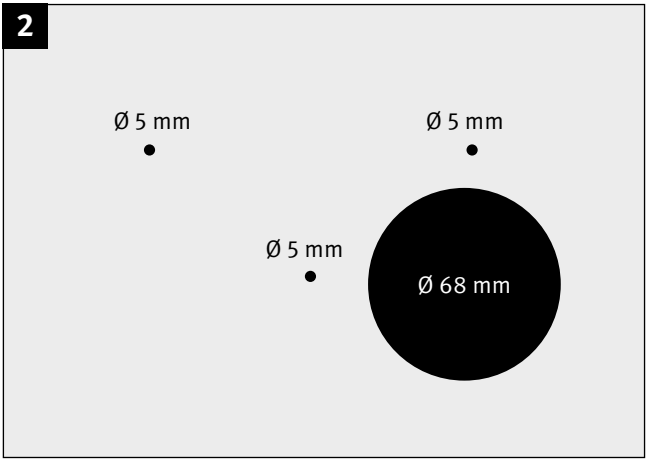
Also pay attention to the POE power supply of your switch, as only wires 1/2/3/6 of your network cable are used in this type of installation.

Furthermore, also insert additional connection cables required for your desired installation into the flush-mounted box/junction box and wire accordingly with the internal wiring (for connection points and description, see page „3.2. Indoor station rear panel“ auf Seite 19).

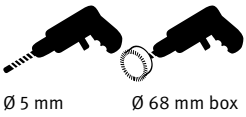
2.2. Wall mounting for flush-mounted cables with keystone adapter and junction box/switch box (diameter 68 mm / depth 65 mm).*



Step 1:
Use the template supplied for marking or centre punching. Align the template with the dotted outer contour (this corresponds to the size of the indoor station). Mark or centre punch the centre positions of the three drill holes and the position of the required switch box on the wall. It is essential to ensure that the installation is plumb.

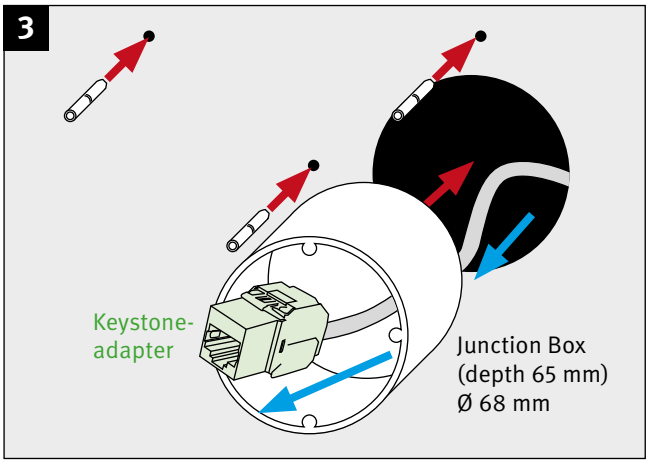


Step 2:
Use a Ø 5 mm drill bit and a junction box drill bit for a Ø 68 mm box to make the holes.



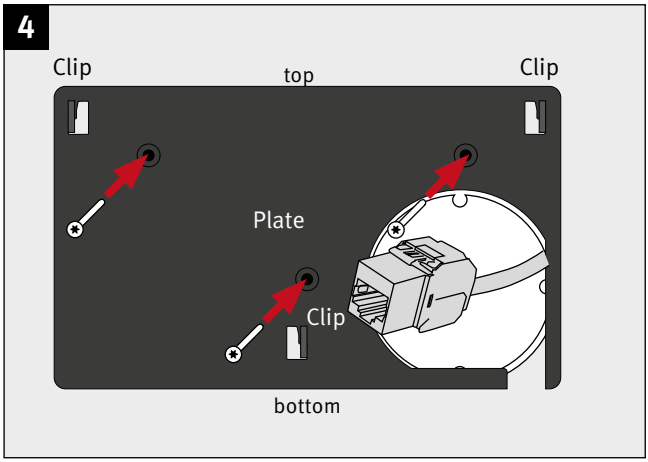
Note: Drill precisely so that the switch box is completely covered by the indoor station later on.

*** Junction box/switch box and keystone adapter not included in delivery.**



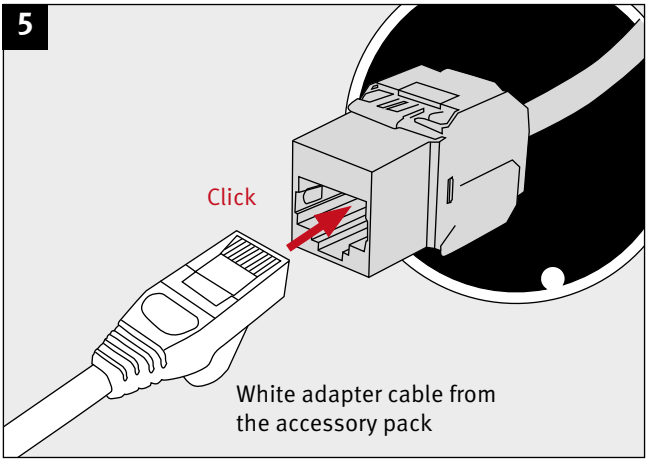
Step 3:

Insert the three wall plugs from the wall bracket accessory pack into the drill holes. Feed your network cable and other installation cables (e.g. I-Y-STY) required for operating the indoor station through the cable entry of the flush-mounted box and secure them professionally in the existing wall. Use a keystone adapter to terminate the network cable.



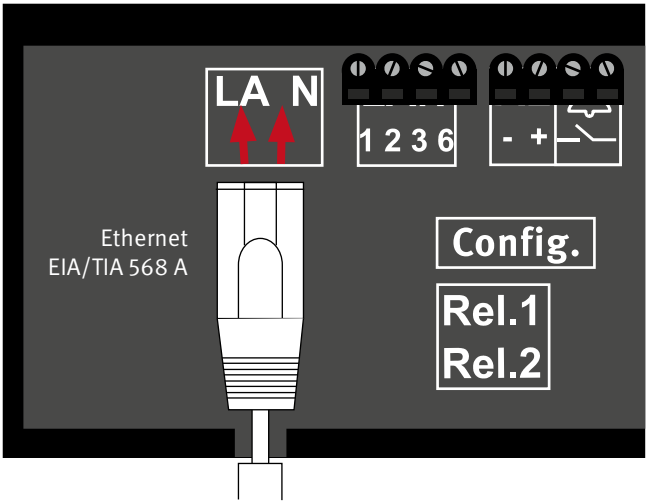
Step 4:

To attach the indoor station, screw the mounting plate in place using the three Torx screws provided in the package so that the three clips on the mounting plate are facing forwards and upwards.



Step 5:
First connect the keystone adapter to the white patch cable included in the package *

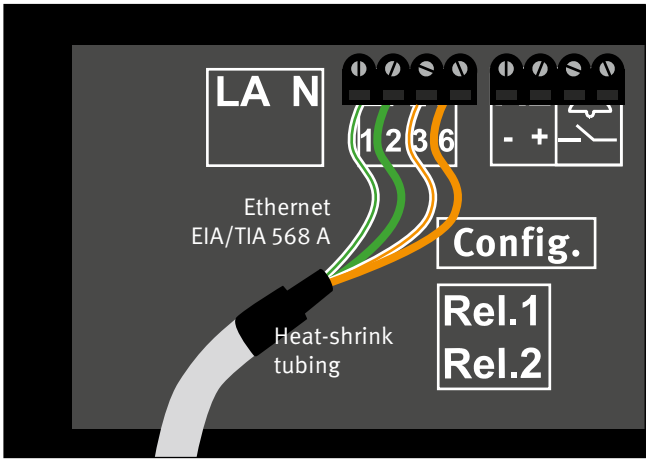
5a Installation with the short patch cable provided*



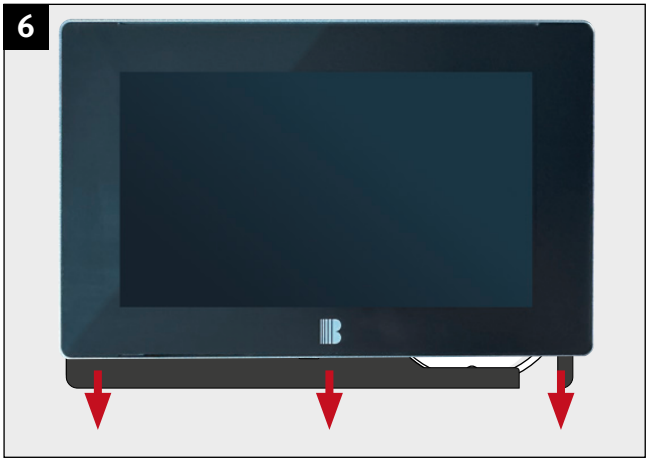
Step 5a:
Connect the white patch cable to the indoor station. Store cables and adapters in the switch box.
Wire any other connections required for operation using the appropriate connection cable (I-Y(St)Y).

*** Patch cable included in delivery.**

5b Installation with on-site network cable directly to the connection terminals 1/2/3/6

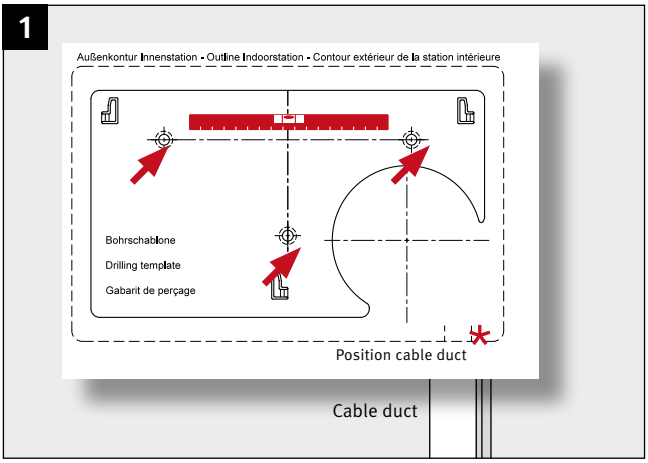


Step 5b:
Alternatively, the network cable can be connected directly to the indoor station. To do this, connect wires 1/2/3/6 (note the standard used by the indoor station) to the screw terminals on the rear of the indoor station. Ensure that there is strain relief in the flush-mounted switch box on site. Wire any other connections required for operation using the appropriate connection cable (I-Y(St)Y).

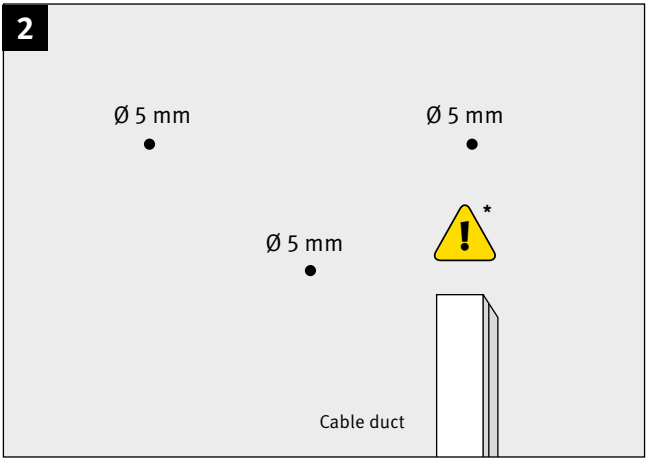


Step 6:
Carefully hook the indoor station into the three clips on the bracket and then push them down evenly until the indoor station clicks into place.

2.3. Indoor station installation with wall bracket and connection cable feed via cable duct



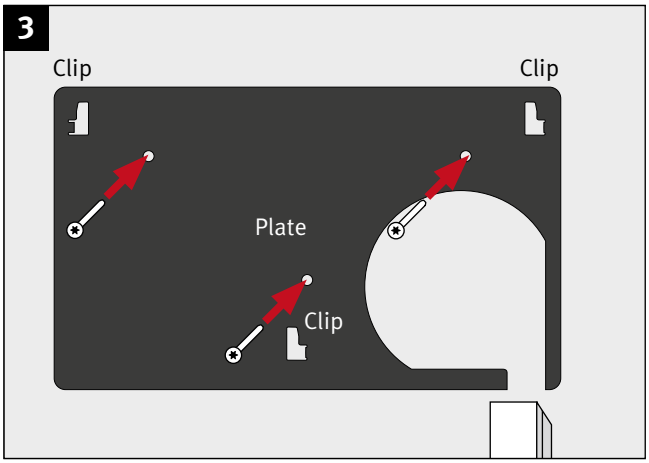
Step 1:
Use the template supplied for marking or centre punching. Align the template with the dotted outer contour (this corresponds to the size of the indoor station). Mark or centre punch the centre positions of the three drill holes and the position of the required switch box on the wall. It is essential to ensure that the installation is plumb.



Step 2:
Use a Ø 5 mm drill bit to drill the holes.
Insert the three wall plugs from the indoor station accessory pack into the drill holes.

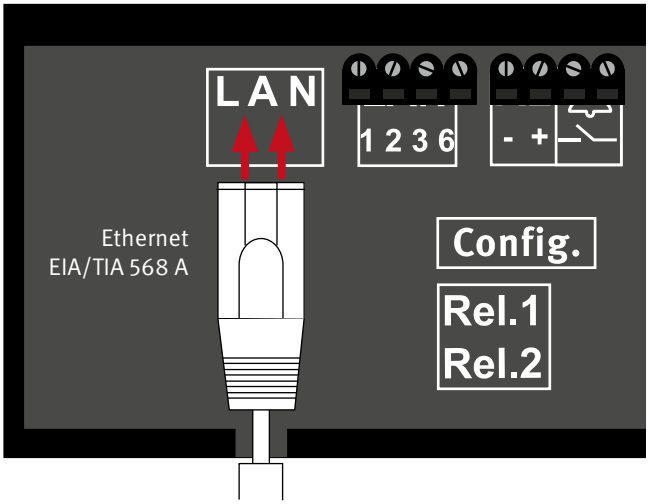
Ø 5 mm

***** If a keystone adapter is used as a network termination, please be sure to observe points 3 to 5a on pages 8-9. In this installation scenario, a suitable flush-mounted switch box is required as described there.



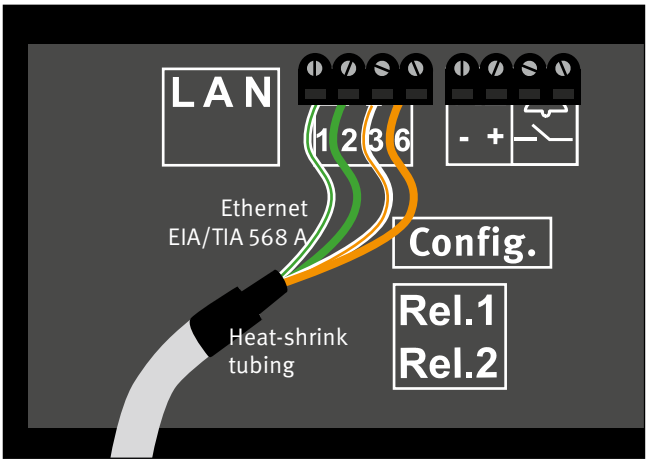
Step 3:
To mount the indoor station, screw the mounting plate in place using the three Torx screws provided in the accessory pack, ensuring that the three clips on the mounting plate are facing forwards and upwards.

4a Installation via network cable and RJ-45 socket

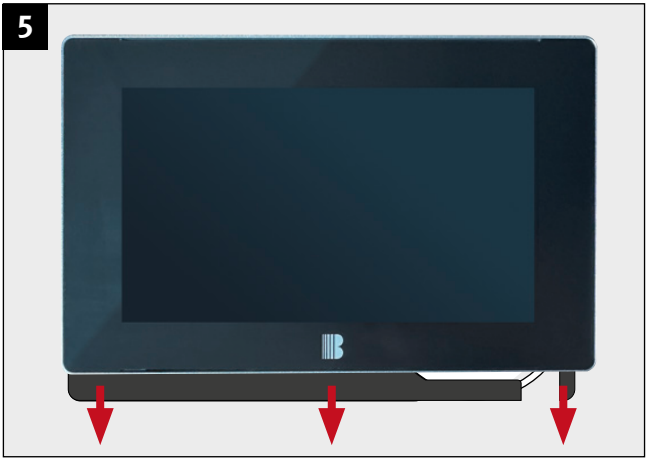


Step 4a:
Connect your on-site LAN cable (with RJ-45 plug to the RJ-45 socket on the indoor station) to the indoor station. Wire any other connections required for operation using the appropriate connection cable (I-Y(St)Y).

4b Installation via network cable and screw terminals 1/2/3/6



Step 4b:
Alternatively, the network cable can be connected directly to the indoor station. To do this, connect wires 1/2/3/6 (note the standard used by the indoor station) to the screw terminals on the rear of the indoor station. Ensure that there is strain relief in the on-site cable duct. Wire any additional connections required for operation with the appropriate connection cable (I-Y(St)Y).



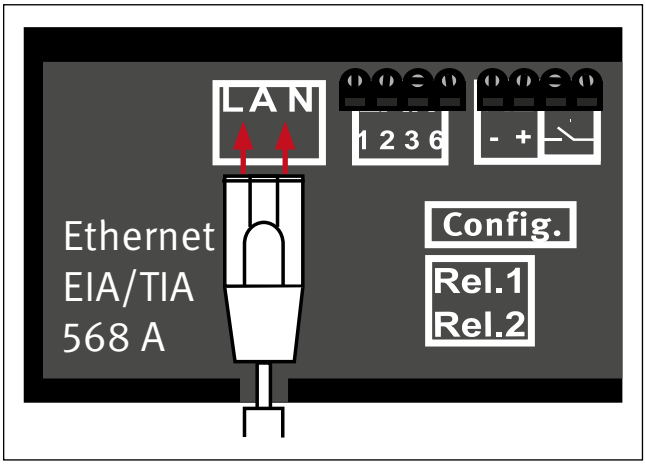
Step 5:
Carefully hook the indoor station into the three clips on the bracket and then push them down evenly until the indoor station clicks into place.

2.4. Indoor station installation with Behnke stand

The appropriate Behnke stand (43-9623) is always required for stand mounting of the indoor station. When choosing the installation location, please note that direct sunlight and a different installation height of the indoor station (see technical data for the indoor station opening angle) can affect the quality of the video stream and the audio connection. When using the indoor station with a stand, the network cable (Cat. 5 and higher) must be laid out as a flexible network cable and secured with the two strain reliefs on the stand. If, alternatively, the network cable (wires 1/2/3/6) is connected directly to the indoor station via screw terminals, be sure to observe the POE power supply of your switch, as only wires 1/2/3/6 of the network cable are used. Wire any other necessary connection cables to the indoor station and ensure that the strain relief is in place.

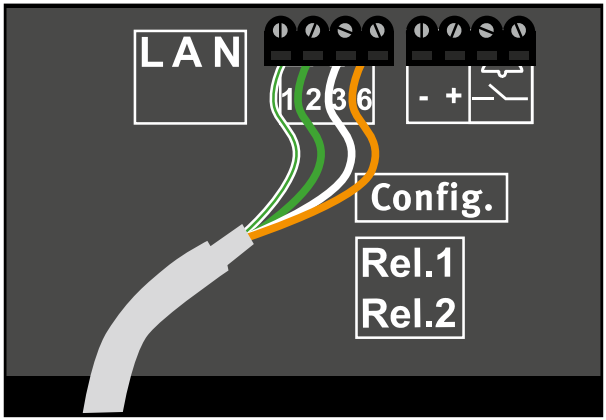
Step 1:
Place stand

2a Installation with patch cable/network cable and RJ-45 sock



Step 2a:
Connect the on-site LAN cable with RJ-45 plug to the RJ-45 socket on the indoor station. Wire any additional connections required for operation with the appropriate connection cable (I-Y(St)Y).

2b Installation of network cable using screw terminals 1/2/3/6



Step 2b:

Alternatively, the network cable can be connected directly to the indoor station. To do this, connect wires 1/2/3/6 (note the standard used by the indoor station) to the screw terminals on the rear of the indoor station. Wire any additional connections required for operation with the appropriate connection cable (I-Y(St)Y).

Step 3:

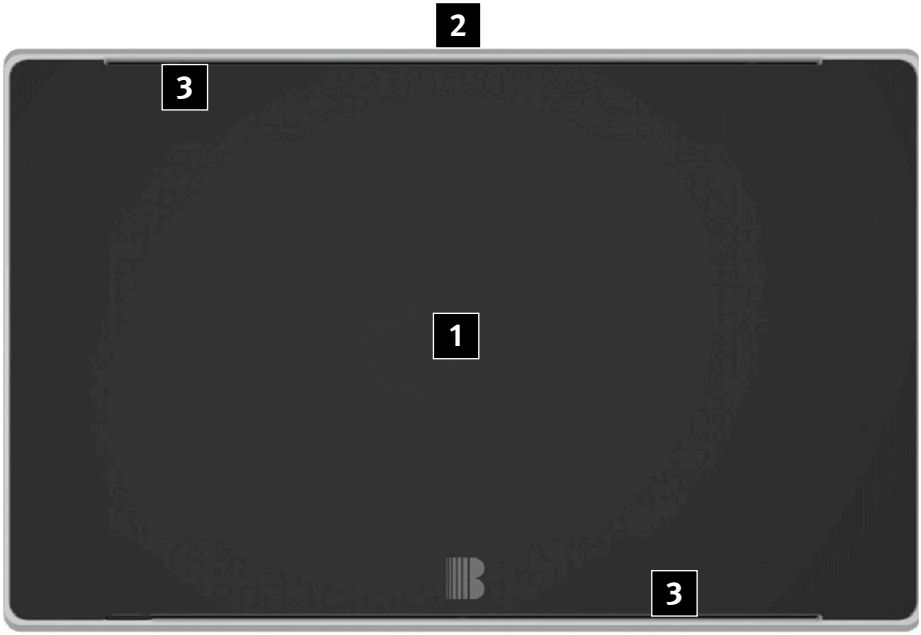
Attach indoor station

Step 4:
Use strain relief

Step 5:
Done

3. INDOOR STATION CONNECTION

3.1. Indoor station front view



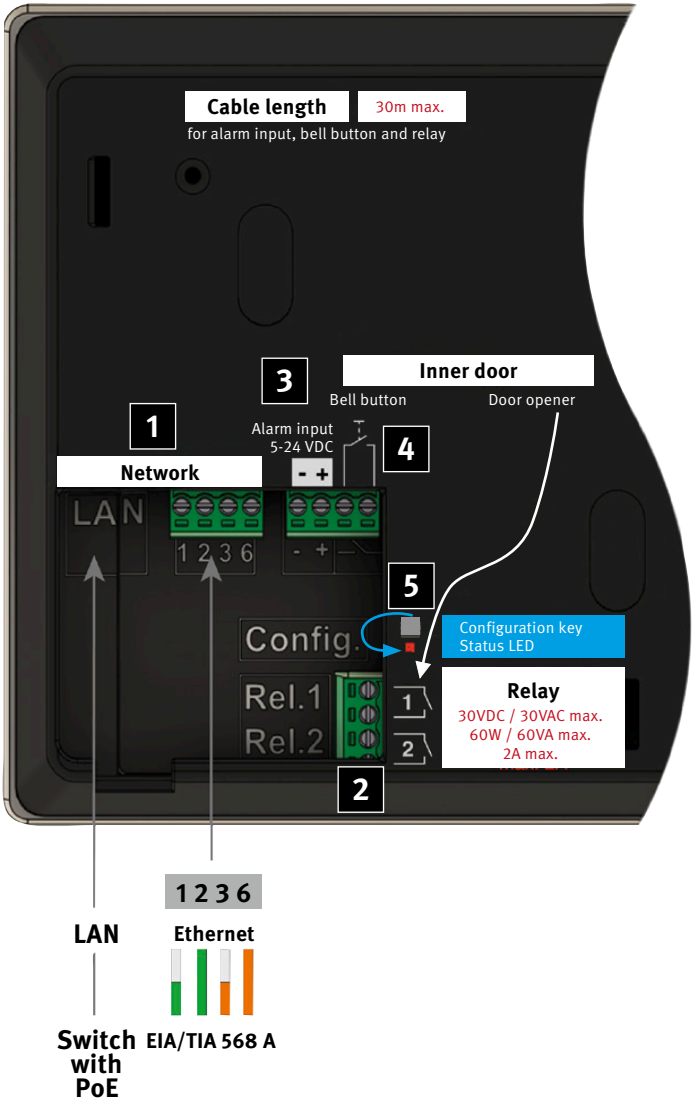
1 **Capacitive 7" touch display**

2 **Aluminium frame**

3 **Openings for sound input/output and air circulation (must never be closed or covered)**

3.2. Indoor station rear panel

(for connection description, see page 20 onwards)



Connections

1 Network

Normally, the device is connected to a 100 Mbit/s Ethernet network. To do this, connect the network cable coming from the switch to the RJ-45 socket labelled “LAN”. Alternatively, the two wire pairs 1/2 and 3/6 can also be connected via the left-hand 4-pin plug.

If the device is connected to a network port with PoE, power is supplied via the network cable. If the network is to be connected via the four screw terminals instead of the RJ45 socket, this is only possible with a PoE variant in which power is transmitted via the same wire pairs as the data (1/2 3/6). For a PoE variant that uses the free wire pairs, the connection must be made via the RJ45 socket.

If PoE is not available, the device can be powered via a Behnke PoE injector.

Power supply via PoE according to IEEE 802.3af

2 Relay

The device has 2 relays that are connected via the lower 4-pin plug. Relay 1 uses the two left terminals and relay 2 uses the two right terminals of the plug.

These are voltage-free switching contacts. The maximum values for the switching voltage, switching current and switching capacity indicated in red must all be observed.

The default function for relay 1 is to be used as a door opener relay with a normally open contact, and for relay 2, the contact is closed when an incoming call rings.

If other functions are required, for example a door opener relay with a normally closed contact or 2 door opener relays, this can be configured accordingly.

Relay 1 can, for example, open an inner door (floor door). Relay 2 can also control a door chime (internal).

Relay switching capacity:
30 VDC / 30 VAC max.
2 A max.
max. 60 W / 60 VA
max. cable length 30 m

3 Alarm input (Trigger)

The alarm input can be used to send information about a suitable DC voltage to the device in order to trigger an action, such as a phone call or opening a door.

The voltage is connected to the two left terminals of the right-hand 4-pin plug, observing the polarity.

Trigger voltage: 5 VDC-24 VDC
Trigger: with rising and/or falling flank
Debounce duration: 50-1500 ms
Minimum rising/falling edge duration: none, 1 s - 60 min
Cable length: max. 30 m

4 Inner door

An inner door provides access to the area where the indoor station is installed and where no Behnke station is installed. If the inner door has a bell button and/or a door opener, it is possible to connect these to the indoor station.

When the bell button is pressed, a signal is sent to the indoor station and it is possible to activate the door opener of the inner door via a soft key on the indoor station in order to open it. The bell button (normally open contact) is connected to the two right-hand terminals of the right-hand 4-pin plug and the door opener to relay 1.

It is essential to observe the specified cable lengths of max. 30 metres for the connection cables to the alarm input, bell button, and relay output. When connecting to the bell button, ensure that there is no potential.

Bell button:
potential-free normally open contact Cable length: max. 30 metres

5 Configuration key and status LED

The configuration key is located on the connection board in the right-hand centre area under the rear cover.

Configuration key on an unconfigured device in its delivery state

Important notice:
Although it is possible to perform a minimal initial configuration of the indoor station using the configuration key, it is strongly recommended that you perform the initial configuration using the touchscreen, as this is more detailed, easier to understand and simpler.

When you press the configuration key, you will first be prompted to select the language.

Press the configuration key four times for English.

Then select the desired operating mode.
Press the key
3 times for SIP telephone or
4 times for intercom station mode.

When used as an intercom station, the intercom station group must still be defined.

All devices of the same group together form a sub intercom station. In easy cases, all devices belong to intercom station group 1. For more complex cases, the devices can be divided into different groups.

To set the desired intercom station group, press the key

1 time for intercom station group 1
2 times for intercom station group 2
:
9 times for intercom station group 9

When used as an intercom station, the intercom station ID of the indoor station must also be specified. This is used within the intercom station group to assign the buttons on the outside intercom stations to the indoor stations.

In “IP intercom station” mode, buttons for which no phone number is configured select their button number:
button 1 calls ID 1, button 2 calls ID 2, and so on.

To set the desired intercom station ID, press the button

once for intercom station ID 1
twice for intercom station ID 2
:
9 times for intercom station ID 9

After selecting the operating mode or the intercom station group and the intercom station ID, the settings made are saved. After this, these settings can no longer be changed using the configuration key, unless the device is reset to the factory settings.

Changing the selected settings via the web interface or configuration mode is always possible.

Configuration key with an already configured device

Press the configuration key
once to announce the options,
twice to announce the IP address,
three times to start/exit network config. mode,
four times for instructions on accessing the device via Wi-Fi, or for at least 5 seconds to reset the device to factory settings.

If you want to reset the device to factory settings, press the configuration key for at least 5 seconds.

The device will then emit a beep and request confirmation by pressing the configuration key twice.

After confirmation, the device will be reset to factory settings and restart. If no confirmation is given, the process will be cancelled.

4. COMMISSIONING AND CONFIGURATION

4.1. Integrate indoor station into the network structure

4.1.1. Connection to the network

Preparation

- Install or set up the indoor station in a suitable location as described on the previous pages of the manual.
- Connection of the indoor station with a 100 Mbit Ethernet LAN (Ethernet 100BaseT according to IEEE 802.3) via the RJ-45 socket (Ethernet port) or the screw terminals 1236 (EIA/TIA standard), see page 13

By default, Behnke's indoor intercom station comes **pre-set** to automatic IP configuration via **DHCP**. It will automatically obtain its IP address from a DHCP server, where available..

If no DHCP server is found in the network, the device assigns itself an IP address in the Link Local Network 169.254.0.0/16. Note that if the device has assigned itself an IP address, you also need to assign its computer an IP address on the Link Local Network 169.254.0.0/16 so that you can access the device. In addition, the device and the computer must be in the same network segment, so that a connection is possible.

password: admin

4.1.2. Start of the intercom station

Startup process

In most cases, the device is powered via PoE, i.e. by connecting the network cable. If PoE power supply is not possible, the device can also be powered by connecting a Behnke PoE injector.

The start-up process begins as soon as the device is powered up..

Shortly afterwards, the **status LED** is switched on and lights up permanently red.

After about 20 seconds, the software will start up, a high-pitched beep will sound, and the Behnke logo will appear on the display.

The network is then activated.

As soon as the device has an IP address, this is either announced if the device is in its delivery state, or a low-pitched tone is emitted. The IP address is briefly shown on the display.

When the startup process is finished, the status LED changes. For more information, see the **Status LED** section.

For a device in its delivery state, the configuration key can then be used to set the language and operating mode.

If the device does not start as described here, refer to the section **"System startup problems"** in the Appendix.

Status LED

The status LED is located on the connection board in the right-hand centre area under the rear panel cover, directly below the configuration key. Depending on the operating mode and the state of the device, it lights up or flashes in certain colors..

- Startup phase
- Restart
- SIP telephone: all configured SIP accounts registered
- SIP telephone: configured SIP accounts only partially registered
- SIP telephone: no SIP account
- registered SIP telephone for SIP direct calls
- SIP telephone for SIP direct calls without network
- Intercom station mode Intercom
- station mode without network
- Hybrid mode
- Hybrid mode: not all configured SIP accounts registered
- Sabotage detected / Safety shutdown activated
- Temporary shutdown due to high temperature
- Firmware update
- Hardware error, see section **System startup problems in the Appendix.**

4.1.3. Selecting the operating mode of the indoor station

The indoor station can be operated in various operating modes. The operating mode to be configured depends on the desired range of functions for the indoor station and outside intercom station. For more information, see section 5 (Implementing an IP intercom station). Check the desired scenario in advance and then start configuring the indoor stations and outside intercom stations.

1. IP intercom station:
   Pure IP intercom stations only work in conjunction with SIP 3.0 / hybrid intercom station possible / with hybrid mode, can be set in the web front end

2. IP intercom station:
   IP intercom station function in conjunction with SIP 1.0, SIP 2.0 and SIP 3.0 / hybrid intercom stations peer-to-peer, door intercom stations in mixed operation (door intercom stations registered on the SIP server also communicate with other SIP participants)

Operating modes can be selected either via the touch interface of the indoor station or via the configuration key on the circuit board of the indoor station (point **5** Seite 19)

5. IMPLEMENTING AN IP INTERCOM STATION

5.1. Use of Behnke stations as IP intercom stations

Behnke stations can be used as IP intercom stations if at least one outside intercom station and one indoor station are connected to a shared IP network.

In addition to this minimal system, more complex installations with up to 9 groups and up to 100 devices, which can be distributed across multiple networks, are also possible.

A very interesting variant is hybrid mode. This allows an outside intercom station to be operated simultaneously as a SIP telephone and as an IP intercom station. Buttons can then trigger calls via the SIP telephone station and establish connections to indoor stations in intercom station mode, even in parallel.

The IP intercom station does not require a server, as Behnke stations can communicate directly with each other within their network. If the devices are distributed across different networks, cross-network communication can be enabled by setting up network bridges. However, it is essential that all devices in the intercom station can communicate with each other via the IP network.

To use Behnke stations as an IP intercom station, please note the following points:

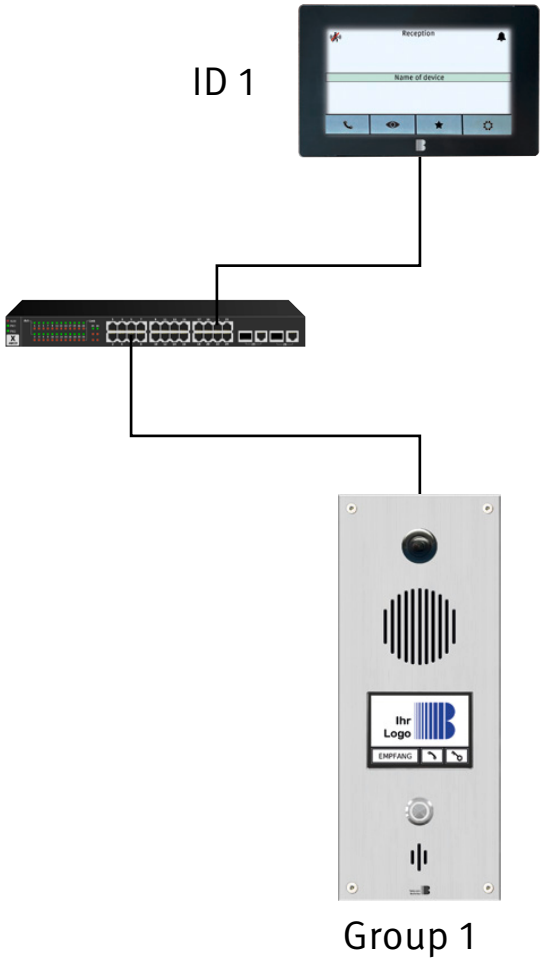
- The administrator password is a global setting and must be the same for all devices in the intercom station..
- Each device belongs to a group. An intercom station can be divided into up to 9 groups.
- Outside intercom stations do not have an ID. Indoor stations are assigned an ID between 1 and 99 during setup.
- All outside intercom stations in the same group are displayed in the telephone book of an indoor station.
- An outside intercom station can call indoor stations in the same group by dialling the ID as the telephone number.
- In “IP intercom station” mode, buttons for which no phone number is configured dial their button number: button 1 calls ID 1, button 2 calls ID 2, and so on. This means that, in the delivery state, the buttons on an outside intercom station are already assigned to the indoor stations in the same group.
- A door opener code can be configured for each indoor station. This code can then be used at all outside intercom stations in the same group that have a code lock function.
- All devices in the intercom station require firmware version 5.80 or newer. Ideally, the firmware should be synchronised, i.e. all devices should use the same version.

Important notice:
Various application scenarios are explained below by way of example.

The examples focus exclusively on the commissioning and software configuration of the intercom devices. Proper mechanical assembly and electrical installation are assumed and are not covered.

In the case of outside intercom stations, this applies in particular to the connection for opening the access point, for example a door opener or a barrier. We assume that this is available and functional.

5.1.1. Minimal system



Example configuration

A minimal system requires the following components:

- 1 PoE/PoE+ switch
- 1 Behnke outside intercom station
- 1 Behnke indoor station
- 2 network cables

In our example, we are using a Behnke All-in-one station as the outside intercom station. However, any other Behnke outside intercom station, typically with a camera, can be used. For an outside intercom station with a hearing loop, however, a PoE+ switch is required.

We assume that the Behnke stations are in their delivery condition.

For the minimal system, we only need a single intercom station group, intercom station group 1, in which we assign both Behnke stations.

Step 1: PoE switch

- Connect the switch to the power supply to start it up.
- In general, no special configuration of the switch is required.

Step 2: Behnke-outside intercom station

COMMISSIONING THE DEVICE

- Connect the outside intercom station to the switch.
- The status LED on the rear panel lights up red and the device starts up.
- The device first attempts to obtain an IP address from the DHCP server. Since there isn't one, it performs a fallback to link-local and assigns itself an IP address in the 169.254 network.
- After about one minute, the self-assigned IP address will be announced.

INITIAL CONFIGURATION

The initial configuration can be carried out using the configuration button on the rear panel or, for devices with a display, via the display. The initial configuration using the configuration key is described below.

- Start initial configuration => press the configuration key once
- Set language => press four times = English
- Set operating mode => press four times = intercom station mode
- Set intercom station group => press once = intercom station group 1

This completes the initial configuration of the outside intercom station.

Step 3: Behnke-indoorstation

COMMISSIONING THE DEVICE

- Connect the indoor station to the switch.
- The device starts up, then also performs a fallback to link-local and allocates itself an IP address in the 169.254 network.
- After about one minute, the self-assigned IP address will be announced.

INITIAL CONFIGURATION

It is strongly recommended that you carry out the initial configuration of an indoor station via the display, as this is more detailed, easier to understand and simpler than using the configuration key on the rear. The configuration via the display is described below.

Selections and entries are confirmed by pressing the ✓ button. If an error occurs, you can return to the previous screen by pressing the ⮨ button.

- Set language => press the British flag
- Select operating mode => select intercom station mode
- Select intercom station group => select 1
- Select intercom station ID => select 1
- Set name => enter reception
- Configure internal door => select no
- Code for the code lock => enter 1234
- automatic preview => select allow

This completes the initial configuration of the indoor station.

Step 4: Detailed configuration

The minimal system is basically ready for operation.

Further refinement of the configuration can now be carried out via the indoor station. To do this, the configuration mode of the indoor station is used which is started via the ☼ button on the lower right screen.

The configuration mode of the indoor station can be used to change the configuration of the indoor station itself, as well as any other Behnke station that belongs to the IP intercom station.

As the name of the outside intercom station has not yet been specified, it uses its host name. It is Behnke-station-1 followed by 5 further digits. The outside intercom station is already displayed under this name on the main screen of the indoor station. The name of the outside intercom station should now be changed to Entrance.

RENAME OUTSIDE INTERCOM STATION

- Enter configuration mode by pressing the ☼ - button
- Enter admin as the administrator password
- Select outside intercom station Behnke-station-1.....
- Configuration is loading
- Select General
- Select the name of the station
- Enter entrance
- Press the SAVE button
- Configuration is saved
- Press the ⮨ button and then exit configuration mode by selecting YES

There are some settings, such as the administrator password, which must be configured uniformly on all devices in the IP intercom station. These are called global settings. Ensure that all devices are installed and ready for operation before global settings are changed.

We want to change the administrator password for all devices to admin2, for example.
In addition, the IP address allocation of the devices should be changed to link-local.
The devices then immediately allocate themselves an IP address in the 169.254 network and do not need to fall back to link-local.

CHANGING GLOBAL SETTINGS

- Enter configuration mode by pressing the button ☼
- Enter admin as the administrator password
- Select global settings
- Select administrator password
- Delete the current password with ⌫ and enter admin2
- Select IP address allocation
- Select link-local
- Press the SAVE button
- Global settings are saved in all devices
- Configuration mode is exited automatically
- Restart devices and update their
- network configuration

Step 5: Use

The minimal system is ready for operation.

In step 3, we gave the indoor station the name Reception and the intercom station is called ID 1. This means that call button 1 on the outside intercom station is automatically allocated to this indoor station. As our outside intercom station has a display, call button 1 is shown and labelled with the name of the indoor station, i.e. Reception.

In the case of an outside intercom station with a physical call button, the label on the button must of course be adjusted manually.

CALLING FROM THE OUTSIDE INTERCOM STATION

- Press the reception call button on the outside intercom station
- Connection to the indoor station is established
- Ring tone on the indoor station and display of the video image from the outside intercom station
- Control on the indoor station:
  - Accept call
  - Open door
  - Reject call / hang up
  - Adjust volume of indoor station

Important notice:

In intercom station mode, the codes for the code lock function are set in the indoor station and not in the outside intercom station. Each indoor station can set its own code, which can then be used for the code lock function on all outside intercom stations in the same intercom station group.

In step 3, we set the code 1234 for the code lock function during the initial configuration of the indoor station. Since our outside intercom station has a display, the button for using the code lock function can be shown.

For an outside intercom station without a display, a physical keypad is of course required in order to use the code lock function.

CODE LOCK FUNCTION OF THE OUTSIDE INTERCOM STATION

- ▸ Press on the outside intercom station
- ▸ Enter 1234 as the code and confirm with #
- ▸ The door opens

All outside intercom stations in the same intercom station group are displayed on the main screen of the indoor station Reception.

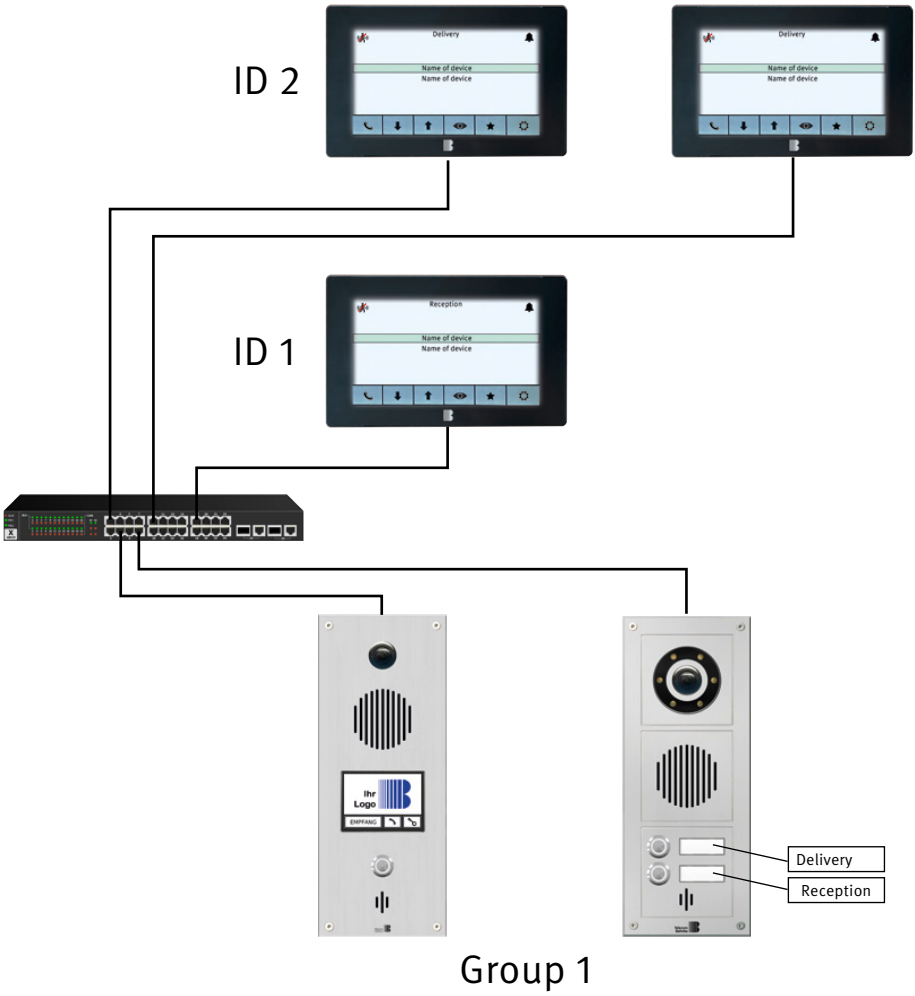
In a minimal system, this is only the outside intercom station Entrance. In a system with multiple outside intercom stations, additional arrow keys ⬇⬆ are displayed, which can be used to select an outside intercom station.

The currently selected station is marked by a coloured bar (green by default).

OPERATING THE INDOOR STATION

- Call station
- Open preview (video/call/open door)
- preferred device (=★) Set/cancel
- Search for station by initial letter
- Call up configuration mode
- Automatic preview off
- Automatic preview of preferred device
- Automatic preview of preferred device not available
- Automatic preview on
- Play ringtone
- Mute ringtone
- Play quiet ringtone
- Automatic preview history
- Call history / last incoming call
- Back
- Answer call
- Open door
- Reject call / hang up
- Adjust indoor station volume

5.1.2. System with multiple outside and indoor stations



Below, we will expand the minimal system to include an outside intercom station with two call buttons and two additional indoor stations. The outside intercom station will be installed in the car park and the two indoor stations at different locations in the delivery area.

Both outside intercom stations should use the first button to call the indoor station at reception and the second button to call the two indoor stations at the delivery area.

Only one intercom station group is required for this system, so we will assign all Behnke stations to intercom station group 1.

OUTSIDE INTERCOM STATION

- ▸ Perform commissioning and initial setup as for the minimal system.
- ▸ Wait briefly after initial setup.
- ▸ After about 1 to 2 minutes, the device will automatically be integrated into the existing intercom station.

The integration will apply the global settings:
Administrator password: admin2
IP address allocation: link-local

- ▸ The outside intercom station restarts and updates its network configuration
- ▸ Wait until the outside intercom station is displayed on the indoor station.
- ▸ Rename the outside intercom station to Car park as shown for the minimal system.

- ▸ Label the call buttons:
  Call button 2: Delivery
  Call button 1: Reception

This completes the setup of the outside intercom station. Call button 1 can now be used to call the indoor station Reception.

INDOOR STATIONS

Since both indoor stations are to be called using the second call button, both are allocated intercom station ID 2. When call button 2 is pressed, both indoor stations are called simultaneously.

- ▸ Perform commissioning and initial setup as for the minimal system.
- ▸ Select intercom station ID => select 2
- ▸ Set name => enter Delivery
- ▸ Enter administrator password => enter admin2

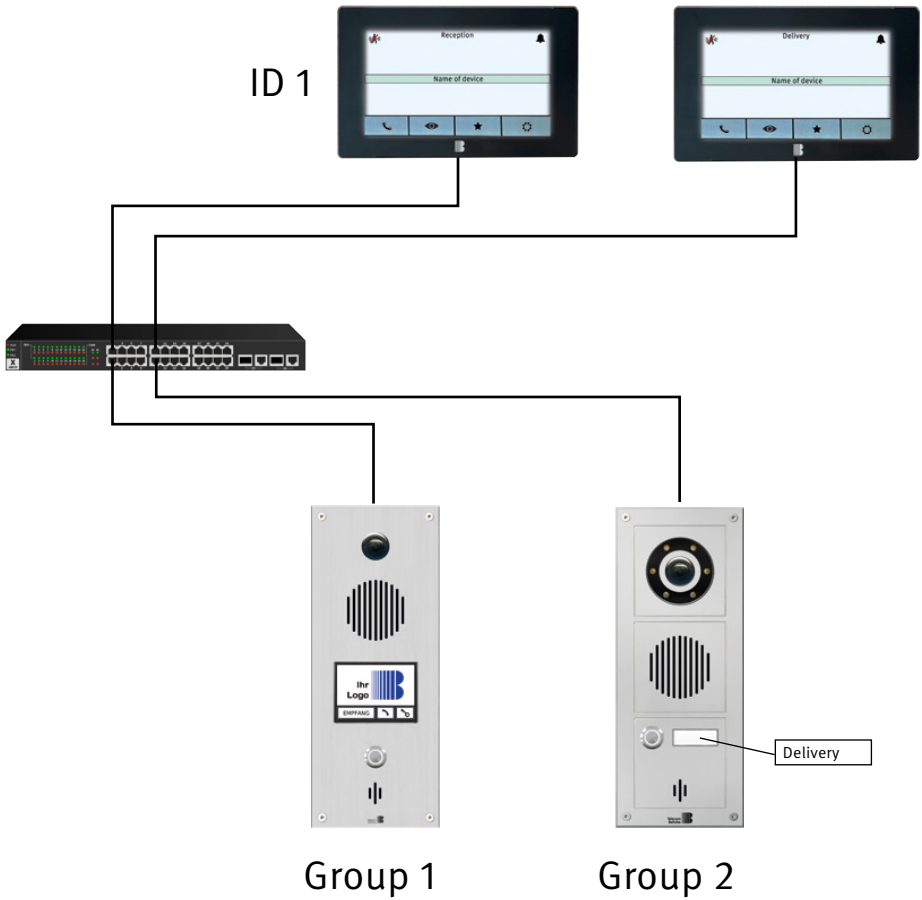
This completes the setup of the indoor stations.

GLOBAL SETTINGS

To ensure that the global settings are the same in all devices after adding Behnke stations, use an indoor station that was already in the system and proceed as follows.

- ▸ Enter configuration mode by pressing the ☼ button
- ▸ Enter admin2 as the administrator password
- ▸ Select global settings
- ▸ Press the SAVE button
- ▸ Global settings are saved in all devices
- ▸ Configuration mode is exited automatically

5.1.3. System with multiple intercom station groups



In the following example, an outside intercom station at the entrance is to call the indoor station at reception, and a second outside intercom station in the car park is to call a second indoor station in the delivery area.

To implement this system, the intercom station is divided into two intercom station groups, 1 and 2. The outside intercom station at the entrance and the corresponding indoor station at reception are placed in intercom station group 1, and the other two devices are placed in intercom station group 2.

INTERCOM STATION GROUP 1

- ▸ Outside intercom station at the entrance & indoor station at reception
- ▸ Setup as for the minimal system (except for global settings)

INTERCOM STATION GROUP 2

- ▸ Outside intercom station at the car park & indoor station at the delivery area
- ▸ Setup as for the minimal system (except global settings), but:
  - Intercom station group: 2
  - Name of indoor station: Delivery
  - Name of outside intercom station: Car park
- ▸ Label the outside intercom station with Car park

GLOBAL SETTINGS

- ▸ Change after all devices are installed and ready for operation
- ▸ Procedure as for the minimal system

This completes the setup and the system is ready for operation.

We now want to extend the example with the following functionality:
If the outside intercom station at the entrance calls the indoor station at reception, but reception does not answer the call, the indoor station in the delivery area should be called. No telephone number has been configured for button 1 of the outside intercom station Entrance so far.

In intercom station mode, an unconfigured button dials its button number (i.e. 1 for button 1) to call the indoor stations with intercom station ID 1 in the same intercom station group.

If we were to configure the call number 1 for key 1, the behaviour would be identical.

Instead of just dialling the intercom station ID, you can also specify the intercom station group by dialling a 3-digit call number. The first digit is the intercom station group (1-9), followed by the 2-digit intercom station ID (01-99).

To call intercom station ID 1 of intercom station group 2, you would dial the number 201.

This enables cross-group calls and allocations. We need this to implement the required functionality.

To first call intercom station ID 1 (1) of our own intercom station group and then intercom station ID 1 of intercom station group 2 (201), we need a call chain (;). This means that we have to configure 1;201 as the phone number.

The necessary configuration can be carried out via one of the two indoor stations.

INDIVIDUAL KEY CONFIGURATION

- Enter configuration mode by pressing the ☼ button
- Enter administrator password
- Select outside intercom station Entrance
- Configuration is loading
- Select button 1
- Select phone number
- Enter 1;201
- Press the SAVE button
- Configuration is saved
- Press the ↩ button and then exit configuration mode by selecting YES

This completes the individual configuration of the button.

As the outside intercom station Entrance is now also allocated to the indoor station Delivery via the individual button configuration, it is also displayed in the telephone book of the indoor station Delivery to enable preview, call, and door opening.

The allocation also means that the code for the code lock function of the indoor station Delivery can also be used for the code lock function of the outside intercom station Entrance.

5.1.4. More complex application scenarios

In many cases, an intercom station can be configured via an indoor station, as shown in the previous examples.

The configuration mode of an indoor station can be used to configure the indoor station itself, but also any other Behnke station in the intercom station. The configuration mode allows you to change the most important settings, but not all of them..

More complex application scenarios, such as hybrid mode or the implementation of a multi-network intercom station, require settings that are not possible via the configuration mode. In such cases, the devices can be accessed via the web interface in order to access the full range of settings.

In addition, the web interface displays the topology of the intercom station in the “IP intercom station” area. The topology is a list of all Behnke intercom stations and shows how they are divided into intercom station groups. The topology also allows you to easily switch to the web interface of the other devices.

The “IP intercom station” section also includes synchronisation, which allows you to easily install new firmware on all Behnke stations of the intercom station, and the option of setting up a network bridge to implement a multi-network intercom station.

5.1.5. Hybrid mode

Behnke outside intercom stations are often connected to a SIP telephone system as a SIP telephone. Any telephone can then be called via the telephone system.

If the outside intercom station has a camera, the camera image can either be displayed on a PC in conjunction with the IP video software or via SIP video on a SIP video telephone.

If the SIP telephone system does not support SIP video or if no SIP video telephone or PC is available, a Behnke indoor station can also be used.

We assume that a Behnke outside intercom station has been successfully commissioned and set up in “SIP telephone” mode. A Behnke indoor station is now to be installed in the same IP network, which is called in intercom station mode using the 2 key.

We only need intercom station group 1 for implementation. The indoor station is allocated intercom station ID 1.

Since the outside intercom station is used in the main operating mode “SIP telephone”, if we want to make a call to the indoor station using key 2, we must specify in the phone number with the prefix com: that it is an intercom station call. Since we want to call intercom station ID 1, we configure com:1 as the phone number.

INDOOR STATION

- Perform commissioning and initial setup as for the minimal system, but:
  - use the administrator password for the outside intercom station as the administrator password.

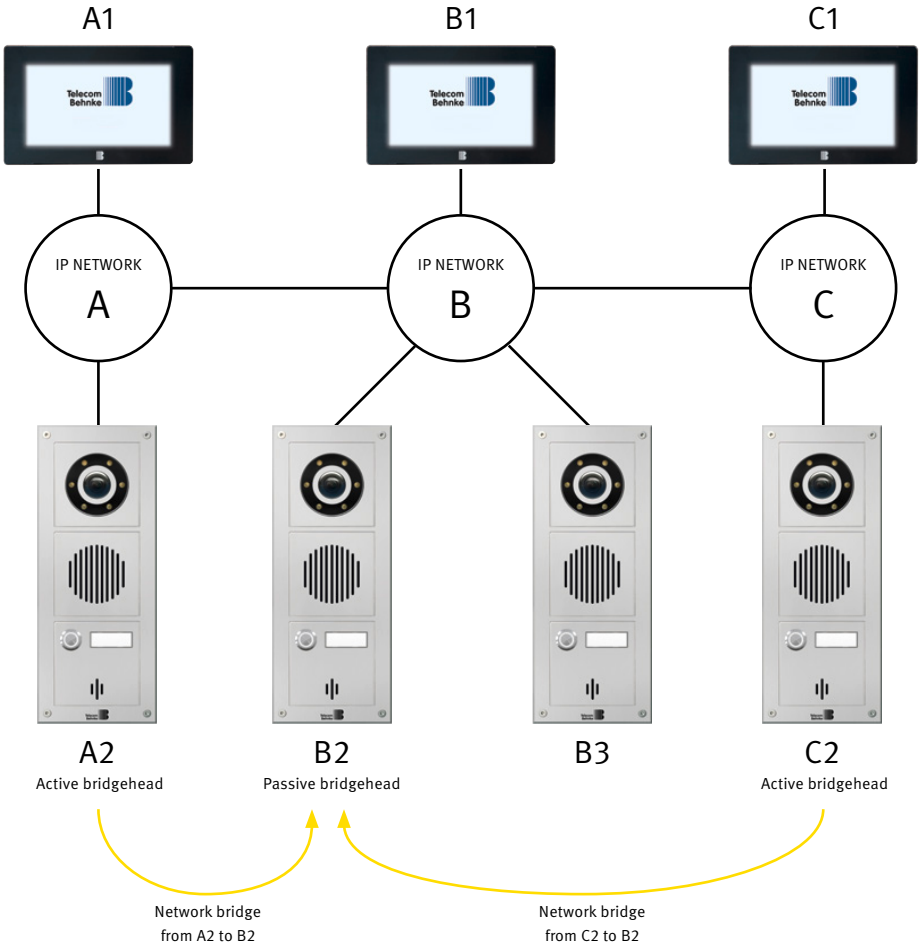
OUTSIDE INTERCOM STATION

Since the remote station is already set up as a SIP telephone, further configuration is carried out via the remote station's web interface. Proceed as follows.

- Log in to the remote station's web interface
- Activate hybrid mode in the “General” section & SAVE
- The device can now also be used in intercom station mode
- In the “IP intercom station” area, set the intercom station group to 1 & SAVE
- In the “Buttons” area, configure the name Reception and the phone number com:1 for button 2 & SAVE

This completes the setup and the system is ready for operation.

5.1.6. Multi-network intercom station



Intercom station devices can automatically find each other within the same network and exchange information.

If the devices are distributed across multiple networks, it is necessary to connect the networks to each other by setting up network bridges.

To set up a network bridge, enter the IP address or host name of a device in another network in the “IP intercom station” area via the “Remote station” setting.

This device then becomes the active bridgehead. It attempts to establish a connection to the remote station, the passive bridgehead. If this is successful, the bridge goes ‘online’ and information is regularly exchanged in both directions.

If the devices are distributed across more than two networks, additional network bridges can be set up.

Important Information

- For a multi-network intercom station to function reliably, each device in the intercom station must be able to reach every other device directly via the network, regardless of which network it is on.
- If the passive bridgehead is specified via an IP address that it has received via DHCP, it is essential to reserve this address so that it does not change.
- The same device can act as an active bridgehead and up to three passive bridgeheads.
- If a bridgehead fails, it can take up to three minutes for this to be detected and for the devices previously transmitted via the bridge to be removed.
- A network bridge always works in both directions. It is not necessary to set up a network bridge for the return path.
- If, in networks A, B, and C, a bridge is set up between A and B and another between B and C, then A is also connected to C. It is not necessary to set up a network bridge between A and C.
- To avoid unnecessary network traffic, you should refrain from setting up unnecessary network bridges.

5.1.7. Firmware synchronisation

Synchronisation allows new firmware to be easily installed on all devices in the IP intercom station.

SYNCHRONISATION

Synchronisation is carried out via the web interface of a Behnke station and takes place in two steps:

- Step 1: Install new firmware on one device
- Step 2: Distribute new firmware to all other devices

- ▸ Log in to the web interface of a Behnke station
- ▸ Select the “IP intercom station” area
- ▸ Under “Synchronisation”, click on “Check for updates”
- ▸ Download the latest firmware version
- ▸ Click on “Update” and install the new firmware
- ▸ Wait until the firmware update has been successfully completed
- ▸ Log in again and select the “IP intercom station” area
- ▸ Click on “Synchronise”
- ▸ The firmware is distributed to all devices that have a different version
- ▸ Devices install the new version and then restart

Once all devices have installed the new firmware, the firmware status changes to “synchronised” and synchronisation is complete.

Important information:

- ▸ Synchronisation is not possible in the delivery state or after a hardware reset, as no firmware file is available. In these cases, the device's firmware must first be updated, even if it is the same version.
- ▸ If devices from different platforms (P1, P2, etc.) are part of the intercom station, at least one device for each platform must have the firmware version to which synchronisation is to take place.
- ▸ While synchronisation is in progress, no firmware updates or synchronisation may be performed on any other device, otherwise the synchronisation will be interrupted and fail.

5.1.8. Connecting an interior door

An inner door provides access to the area where the indoor station is installed and where no Behnke station is installed.

If the inner door has a bell button and/or a door opener, it is possible to connect these to the indoor station. When the bell button is pressed, a signal is sent to the indoor station and it is possible to activate the door opener of the interior door to open it.

It is possible to specify whether and how an interior door is connected.

Doorbell button
When the doorbell button is pressed, an acoustic and visual signal is sent to the indoor station. The ring tone used can be set in the “Acoustics” section.

Door opener
When connecting a door opener, a door opener button for the interior door is displayed on the indoor station. When this button is pressed, relay 1 is activated, provided that it has been configured as a door opener relay.

5.1.9. Automatic video preview

- Automatic preview off
- Automatic preview of preferred device
- Automatic preview of preferred device not available
- Automatic preview on
- Automatic preview history

An indoor station can request an automatic preview from a specific or all Behnke outside intercom stations in its intercom station group, provided that these have a camera and motion detection is switched on.

With automatic preview, the outside intercom station informs the indoor station about detected movement.

An acoustic signal is then emitted at the indoor station and the preview of the outside intercom station is automatically displayed.

To request automatic preview of a specific outside intercom station, use the “preferred device” setting and select the relevant outside intercom station as the preferred device.

The automatic preview can also be switched via the main screen of the indoor station, provided that this is permitted by the “switch automatic preview” setting.

Important notice:
Check whether the use of automatic preview is possible and permissible under the legal regulations of your country or company.

5.1.10. Integration of non-Behnke stations

Behnke stations (=BS, Generation 3) are very easy to use as intercom station devices, as they can communicate directly with each other via the IP network.

In addition, a Behnke indoor station also allows the integration of IP stations. IP stations are other SIP telephones with IP cameras, for example Behnke SIP telephones (=BT-IP) of generations 1 and 2, or IP cameras

Up to 9 IP stations can be integrated per indoor station. The information required for integration must be configured manually via the web interface of the indoor station. If an IP station is to be used with several indoor stations, a suitable IP station must be configured in each indoor station.

Please note that functionality is not guaranteed when integrating SIP telephones from other manufacturers.

The functionality of the indoor station in connection with IP stations is limited to preview, connection and door opening, or only to video preview when integrating an IP camera. IP stations are not displayed in the topology, are not included in firmware synchronisation, and the codes set in the indoor station for the code lock function do not apply to IP stations.

CALLS / IP STATION CALL NUMBER
Calls to and from IP stations can be made either as direct SIP calls or via a SIP account.

Direct SIP calls
Direct SIP calls can be made directly in “Intercom station” operating mode.
Hybrid mode is not required.

Calls via a SIP account
The indoor station must be operated in hybrid mode so that intercoms and SIP telephone functionality can be used, and the indoor station must be connected to a SIP telephone system via a SIP account.
The telephone number of the IP station must always be specified with the prefix **sip1:** for the first SIP account or **sip2:** for the second SIP account.

DOOR OPENING VIA DTMF CODE

SIP door stations usually allow access to be opened during a connection when a specific DTMF code is received.

A code can be set that must be sent to the IP station in order to open access.

This code is sent via DTMF during an existing connection with the IP station. For “BT-IP” type devices, a # is automatically appended.

If the opening of the IP station access is triggered at the indoor station during a connection, the DTMF code is sent to the IP station and a corresponding visualisation is displayed at the indoor station. After setup, you should check that the IP station actually opens the access. Since no feedback is received from the IP station, it is possible that the visualisation occurs even though the IP station does not open the access, for example because the wrong code is set.

6. CONFIGURING THE INTERCOM SYSTEM VIA THE INDOOR STATION

Please note that this function is only available with hybrid intercom stations (SIP 3.0). The outdoor intercom stations must be configured accordingly (operating modes for outside intercom station: IP intercom station); please refer to the operating instructions for the outside intercom station.

6.1. Configuration steps

6.1.1. Commissioning the indoor station via touch display

Indoor station screen during the start-up phase

The IP address assigned to the indoor station is displayed during the start-up phase

Configuration screen after starting the indoor station

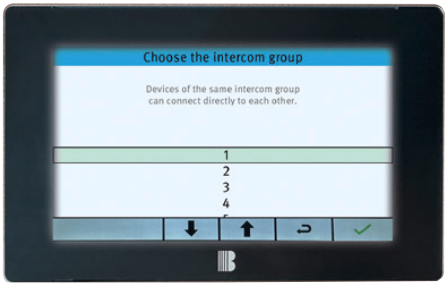
The system language for the indoor station can be selected here. To do this, touch the flag for the desired language.

Start initial set-up

Selecting the operating mode of the indoor station

Two operating modes are available. Please check which functional scope you require for the indoor station before selecting the operating mode.

Select intercom station group



This setting defines the intercom station group for this device. 9 different intercom station groups can be created. Outside intercom stations and indoor stations of the same group can establish a direct connection with each other. In the telephone directory of an indoor station, all detected outside intercom stations of the same intercom station group are displayed automatically. In the delivery state, the outside intercom stations are already assigned to the indoor stations of the same group. Button 1 of an outside intercom station calls the indoor station(s) with ID 1 of the same group, button 2 calls the indoor station(s) with ID 2, and so on.

Select intercom station ID

This setting determines the intercom station ID of this indoor station. The intercom station ID determines the telephone number under which the indoor station(s) can be reached in intercom station mode.

A total of 99 IDs can be assigned to indoor stations. The indoor station can be reached from the outside intercom station using the ID assigned here. If an indoor station has the ID 95, the bell button on the outside intercom station must be configured accordingly with 95. See the technical manual in the web frontend of the indoor station or outside intercom station for more detailed information.
The settings made so far can also be made using the configuration key mentioned above.

Assign names for indoor stations

Here you assign a unique name to the indoor station.

Configuring connection options for the indoor station for an inner door
(access to the area where the indoor station is located)

If the inner door has a bell button and/or a door opener, it is possible to connect these to the indoor station. It is essential to observe the technical information on connecting external buttons on page 21. When the bell button is pressed, a signal is sent to the indoor station and it is possible to activate the door opener of the inner door to open it. This setting can be used to specify whether and how an inner door is connected.

Bell button:
When the doorbell button is pressed, an acoustic and visual signal is sent to the indoor station. The ring tone used can be set in the “Acoustics” section.

Door opener:
When connecting a door opener, a door opener button for the interior door is displayed on the indoor station. When this button is pressed, relay 1 is activated, provided that it has been configured as a door opener relay.

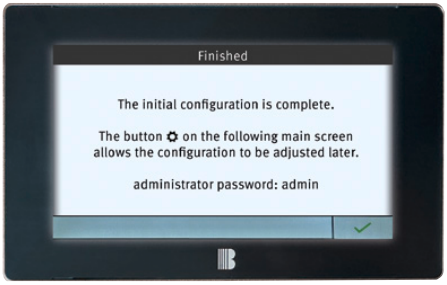
Configuring the code for the door intercom code lock

The code specified here can then be used on all outside intercom stations in the same group that have a code lock function with relay 1 as the door opener relay

Configuring the automatic preview

An indoor station can request an automatic preview from a specific or all Behnke outside intercom stations in its intercom station group, provided that these have a camera and motion detection is switched on.

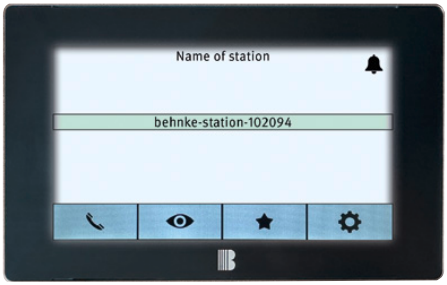
The initial configuration of the indoor station is now complete.



6.1.2. Configuration steps for indoor station and outside intercom station with the same intercom station group

The outside intercom station is set to intercom station mode via the configuration key and has been assigned an intercom station group (hybrid intercom station manual).

Configuration mode



Start configuration mode using the “gear symbol” and enter the administrator password. In delivery state, the password is admin. Confirm using the green tick.

6.1.3. Global settings apply to all devices (both indoor stations and outside intercom stations) in your intercom system and are transferred to them. Only possible with hybrid intercom station (SIP 3.0)

Global settings

- **Administrator password:** the administrator password can be changed here
- **IP address allocation:** the type of IP address allocation can be specified here
- **Display station name:** This setting determines whether the station name of the indoor station is displayed at the top of the main screen of the indoor station or not
- **Display station information:** This setting determines whether the station information (ID, group, and station name) is displayed when calling up the configuration on the indoor station or not
- **User login:** This setting determines whether users are allowed to log in to the indoor station in order to change the user settings. In delivery state, the user password is empty. Each user can therefore log in to their indoor station and set their own user password for their indoor station

6.1.4. Settings of this device (applies only to this indoor station)

General

Language: Choose system language

Station name: give this indoor station a unique name

Administrator password: see global settings

User password: Password for this device

Network

IP address allocation: see global settings

IP intercom station

Intercom station group: defines the intercom station group. 9 groups possible. 1-9

Intercom station ID: defines the ID of the indoor station via which the indoor station can be reached by operating the “bell buttons” on the outside intercom station. 99 IDs possible. The ID allocated here must be configured as the “telephone number” of the corresponding “bell button” of the outside intercom station. All indoor stations with the same ID and in the same intercom station group are reached. If an indoor station is to be reached from an outside intercom station of another intercom station group, the “telephone number” for this outside intercom station consists once of the intercom station ID of the indoor station to be reached plus the intercom station group ID, always consisting of two digits, e.g. 201 (indoor station in intercom station group 2 with intercom station ID 1).

Set preferred device: This setting determines whether a preferred device can be set or not.

If a preferred device has been set, the star button is displayed on the main screen

Switch automatic preview: This setting determines whether the automatic preview can be switched via the main screen. If yes, a corresponding symbol is displayed in the upper left corner of the main screen.

Switch ringtone volume: This setting determines whether the ringtone volume can be switched via the main screen. If yes, a corresponding symbol is displayed in the upper right corner of the main screen.

Display synchronised time: yes/no

Connection of an inner door: (Access to the area in which the indoor station is located)
If the inner door has a bell button and/or a door opener, it is possible to connect these to the indoor station. It is essential to observe the technical information on connecting external buttons on page 21. When the bell button is pressed, a signal is sent to the indoor station and it is possible to activate the door opener of the interior door to open it. This setting can be used to specify whether and how an inner door is connected.

Bell button: When the doorbell button is pressed, an acoustic and visual signal is sent to the indoor station. The ring tone used can be set in the “Acoustics” section.

Door opener: When connecting a door opener, a door opener button for the interior door is displayed on the interior station. When this button is pressed, relay 1 is activated, provided that it has been configured as a door opener relay.

Code for the code lock: The code defined here can then be used on all outside intercom stations of the same group that have a code lock function with relay 1 as the door opener relay.

Code lock code for access 2: The code defined here can then be used on all outside intercom stations of the same group that have a code lock function with relay 2 as the door opener relay.

Automatic preview: An indoor station can request an automatic preview from a specific or all Behnke outside intercom stations in its intercom station group, provided that these have a camera and motion detection is switched on.

Display

Design: Set display background colour

Automatic revitalisation: specifies after which time the display is to be revitalised

Brightness: Set display brightness in %

Relay 1 und relay 2

Operating mode: This setting defines how the relay is to be operated. The following operating modes are possible:

- Door opener relay with normally closed contact
- Door opener relay with normally open contact
- Connection indicator with normally closed contact
- Connection indicator with normally open contact
- Additional bell with normally closed contact
- Additional bell with normally open contact
- Fault indicator with normally closed contact
- Fault indicator with normally open contact

Access type: This setting specifies which type of access is to be opened with the switching contact

Opening time: When a valid code for this door opener relay is entered, this setting defines how long the access is opened

For detailed information, please refer to the technical manual “Relays”

Acoustics

Volume: Loudspeaker volume indoor station in %

Ringtone: Set the ringtone of the indoor station

Pause between ringtones: Set the pause duration between two ringtones

Ringtone for automatic preview: Set the ringtone for the automatic preview

Ringtone volume: the ringtone volume can be set here, 3 levels (off, quiet, loud)

Quiet ringtone volume: the ringtone volume for the “quiet” level can be set here

Loud ringtone volume: the ringtone volume for the “loud” level can be set here

System

Restart device: Indoor station is rebooted

Reset configuration: Indoor station is reset to delivery state

6.1.5. Explanation of indoor station symbols

See page 33 of this manual

6.1.6. Configuration of outside intercom station(s) of the same intercom station group

Start configuration mode using the “gear symbol” and enter the administrator password. In delivery state, the password is admin. Confirm using the green tick.

General settings of the outside intercom station

Language: Choose system language

Station name: give this outside intercom station a unique name

Administrator password: see global settings

Network settings of this outside intercom station

IP address allocation: see global settings

IP intercom station settings

Intercom station group: defines the intercom station group. 9 groups possible. 1-9

Outside intercom stations and indoor stations of the same group can establish a direct connection with each other

Display settings

Function: disabled

- 1 button
- 1 button & telephone
- 1 button & code lock
- 1 button & information text
- 1 button & logo
- 1 button & telephone & code lock
- 1 button & telephone & information text
- 1 button & telephone & logo
- 1 button & code lock & information text
- 1 button & code lock & logo
- 1 button & telephone & code lock & information text
- 1 button & telephone & code lock & logo
- 2 buttons
- 2 buttons & code lock
- 2 buttons & information text
- 2 buttons & logo
- 3 buttons
- 3 buttons & code lock
- 4 buttons
- 4 buttons & code lock

up to 10 buttons (for detailed information, see the technical manual)

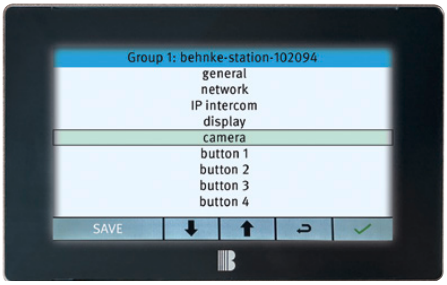
Design: Set display background colour

Automatic revitalisation: specifies after which time the display is to be revitalised

EDS detection: yes/no

Brightness: Set display brightness in %

Camera Settings



Camera illumination:

- off
- in darkness
- during use
- during use in darkness
- during use / movement
- during use / movement in darkness
- on

Darkness threshold: 0-75 %
This setting defines when the device evaluates the environment as dark. This is the case when the brightness of the camera image falls below the darkness threshold set here.

Brightness threshold: 1-20 %
This setting defines when the device evaluates the environment as bright again after it was previously evaluated as dark. This is the case when the brightness of the camera image reaches or exceeds the set brightness threshold.

Motion detection:

- none
- very insensitive
- insensitive
- less sensitive
- standard sensitive
- more sensitive
- very sensitive
- extremely sensitive

Object detection: yes / no

Object detection evaluates a moving object in order to reject atypical objects and thus improve motion detection.

Allow camera access:

- no
- during connection
- during outgoing connection
- yes

This setting defines when the camera image may be retrieved.

Button configuration bell button 1 to 8

Name: Name of the remote station

Telephone number: Number of the remote station to be reached (in intercom station operation, the ID of the corresponding indoor station)
Configure relay 1 and 2

Operating mode:

- **disabled:**
  The relay is not used and is disabled. In this case, the switching contact is open.

- **Door opener relay with normally open contact:**
  The relay is used to control a door opener, whereby a normally open contact (NO) is required. In this case, the switching contact is normally open and is only closed when the door is to be opened.

- **Door opener relay with normally closed contact:**
  The relay is used to control a door opener, whereby a normally closed contact (NC) is required. In this case, the switching contact is normally closed and is only opened when the door is to be opened.

Access type:

- Gatekeeper
- Gate
- Driveway
- Barrier

► **Opening time:**
- 1 - 90 s

When a valid code for this door opener relay is entered, this setting defines how long the access is opened.

Operating mode:
► **Connection indicator with normally open contact:**
- The switching contact is normally open (= no connection) and is closed when a connection is to be indicated

► **Connection indicator with normally closed contact:**
- The switching contact is normally closed (= no connection) and is opened when a connection is to be indicated

► **Activate during incoming connection:**
- yes / no

This setting defines whether the switching contact of this relay is to be closed during an incoming connection

► **Activate during outgoing connection:**
- no
- after the called party answers
- yes

This setting defines whether the switching contact of this relay is to be closed during an outgoing connection. The switching contact can be closed directly at the beginning of an outgoing connection, i.e. before the connection is established, or only after the connection has been established, i.e. when the called party has answered. If the switching contact has been closed, it remains closed for the remainder of the connection duration and is opened again when the connection is terminated
Operating mode:

▸ **Additional bell with normally open contact:**
The switching contact is normally open (= no ringing) and is closed when the additional bell is to be activated. Further settings can be used to define when and, if applicable, for how long the additional bell is to be activated

▸ **Additional bell with normally closed contact:**
The switching contact is normally closed (= no ringing) and is opened when the additional bell is to be activated. Further settings can be used to define when and, if applicable, for how long the additional bell is to be activated

▸ **Activate:**

- During ringing:
  The switching contact is closed as soon as an incoming connection is detected. It then remains closed until either the connection is accepted automatically or manually, or it is determined that there is no longer an incoming connection pending

- **At the beginning of a direct call:**
  The switching contact is closed as soon as a direct call button is pressed and a connection is to be established. The setting 'Activation time' can be used to define how long the switching contact is to remain closed.
  The switching contact is opened again when the activation time has elapsed or when the direct call is terminated earlier

- **During the establishment of a direct call:**
  The switching contact is closed as soon as a direct call button is pressed and a connection is to be established. The switching contact is opened again when the called party has answered or when the direct call is terminated earlier

Operating mode:

- **Fault indicator with normally open contact:**
  The switching contact is normally open (= no fault) and is closed when a fault is detected on the device. A fault can be detected if the device no longer has a valid network connection or if registration with the SIP server has failed. If the daily audio test is activated in the 'Trigger' area, an audio problem can also be detected as a fault

- **Fault indicator with normally closed contact:**
  The switching contact is normally closed (= no fault) and is opened when a fault is detected on the device A fault can be detected if the device no longer has a valid network connection or if registration with the SIP server has failed. If the daily audio test is activated in the 'Trigger' area, an audio problem can also be detected as a fault

Acoustic settings

Set volume:

Percentage levels from 0% to 100%

System settings

Restart device:

The device is restarted

Reset configuration:
The configuration of the device is reset to factory settings. The current configuration is lost in the process. After resetting, the device is restarted

6.1.7. Configuration of the indoor station via web frontend

The configuration of the device can be carried out using a web browser.

If a network connection from the computer being used to the device is possible, the configuration can be carried out directly via the network. Otherwise, the device can also be configured via a special configuration Wi-Fi.

Configuration via the network
To configure the device via the network, the IP address of the device is required.

In delivery state, the device attempts to obtain a dynamic IP address from a DHCP server. If no DHCP server is found in the network, the device assigns itself an IP address in the link-local network 169.254.0.0/16.

With devices in the delivery state, the IP address is announced or displayed on the display as soon as it is known. Alternatively, the IP address can also be queried by pressing the configuration key twice.

As soon as the IP address is known, login to the web interface can take place.

Remember that if the device has assigned itself an IP address, you also need to assign its computer an IP address on the Link Local Network 169.254.0.0/16 so that you can access the device. In addition, the device and the computer must be on the same network segment for a connection to be possible.

In the event of an incorrect network configuration, network access may no longer be possible. In this case, you can regain access to the device as follows. Start network configuration mode by pressing the configuration key three times. The device then behaves with regard to the network configuration as in the delivery state. It therefore either receives an IP address from the DHCP server or allocates one to itself.

Configuration via the configuration Wi-Fi
The network configuration mode can be started by pressing the configuration key three times.
In network configuration mode, a configuration Wi-Fi is provided in the immediate vicinity of the device (only for devices with a Wi-Fi antenna).

If you are in the immediate vicinity of the device, you can then connect to the configuration Wi-Fi with a computer, a tablet or a mobile phone in order to configure the device.

The name and password of the Wi-Fi are: behnke-station

When you are connected to the Wi-Fi, open your browser and enter the IP address http://10.10.10.10 in the address bar. You can then log in to the web interface.

Login to the web interface
To access the web interface, enter the IP address of the device in the address bar of the web browser.

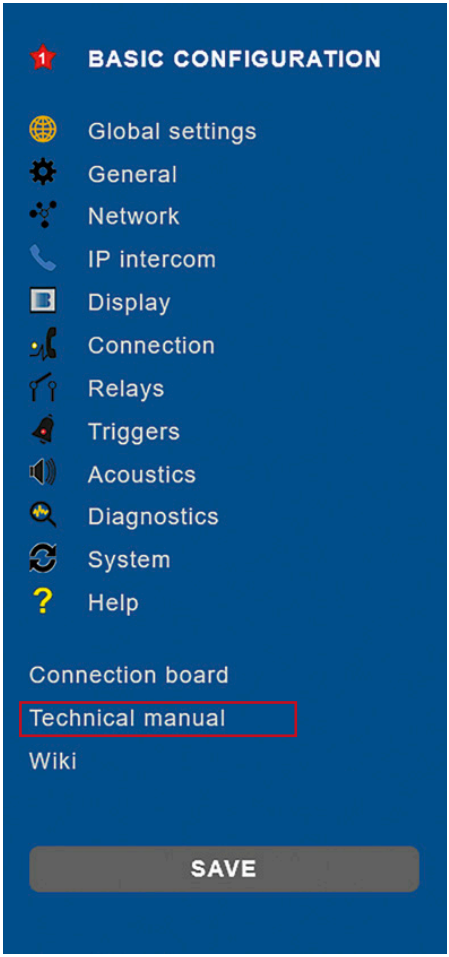
Then log in with the administrator password (default: admin). After logging in, the web interface displays various areas for configuration on the left. The preselected area 'Basic configuration' shows the most important settings of all areas on one page. In many cases, configuring these settings is sufficient for commissioning. If not, the individual areas provide access to all setting options.

Not all listed settings are always displayed in the web interface. Depending on the device type and configuration, settings that are not required are hidden.

The individual configuration areas are explained in detail in the technical manual. You can find this in the web frontend of the indoor station or in the Behnke Station wiki on the Behnke homepage. Further explanations of the configuration can always be found in the areas marked with ? , by moving the mouse pointer to the ? .

6.1.8. Start configuration via web frontend

When configuring via the web frontend, you will find all detailed explanations of the setting parameters either in the technical manual or directly at the configuration points. Move the mouse pointer to the **?** symbol next to the relevant configuration step and the required explanations will be displayed.



7. TECHNICAL SPECIFICATIONS

Technical specifications, performance features and functions

Important notice
This manual describes the Behnke Station in general. This means that technical specifications, performance features, and functions are also described here that may not be available on your model or variant of the Behnke Station, or only if corresponding additional modules are connected.

General

Language:
German, French or English

Operating mode:
SIP telephone, IP intercom station

Configuration:
with a web browser using HTTP or HTTPS via a DTMF-capable telephone or the display Access protected by password or security code User types: Administrator, sub-administrator, normal user

Time-controlled functions:
Schedules for each individual day of the week or for Mon–Fri / Sat–Sun Support for public holidays and special periods such as company holidays Predefined public holidays for Germany, France and Luxembourg

Network

Connection:
Ethernet 100BaseT according to IEEE 802.3, RJ45 or terminals, or Wi-Fi according to 802.11 b/g/n with WPA2 (only with antenna module)

Energy supply:
PoE according to IEEE 802.3af

IP address allocation:
static, dynamic or link-local

VLAN support:
Support for tagged VLANs

Time:
Synchronisation via NTP, version 4
with public time server (requires Internet access) or with local time server, if available

Email:
Sending emails via SMTP or SMTPS when a call button or the alarm input is triggered or when tampering is detected for logging the access control

Services:
Service detection and publication via mDNS

UDP communication:
Status and remote control messages via UDP

Port authentication:
according to IEEE 802.1x with EAP
EAP-MD5, EAP-TLS, EAP-TTLS (PAP, CHAP,

MSCHAP, MSCHAPv2, GTC, MD5) or PEAP (MSCHAPv2, GTC, MD5)

LLDP:
according to IEEE 802.1AB
Support of LLDP-MED, CDP, EDP, SONMP

SNMP:
SNMPv3
SHA, SHA-224, SHA-256, SHA-384, SHA-512
AES, AES128, AES192, AES256

SIP telephone

Connections:
via SIP server (IP telephone system) or as SIP direct calls

Accounts:
2 freely configurable SIP accounts

Call answering:
Can be set separately for each SIP account or SIP direct call, can be limited to known or specified telephone numbers

Transmission protocol:
UDP, TCP or TLS

Communication:
SIP server
SIP server and replacement SIP server SIP registrar and SIP proxy
Query SIP server via DNS NAPTR/SRV

NAT strategy:
public IP address, ICE with STUN or TURN server, UPNP

AVPF-support:
yes, 0-5 s report interval

Media encryption:
SRTP, ZRTP or DTLS
Speech codecs: G.711 A-law (PCMA), G.711 µ-law (PCMU), G.722, G.729, GSM, iLBC, Speex (8 kHz) or Speex (16 kHz)

Video codecs:
H.264 or VP8

Encryption method:
AES_CM_128_HMAC_SHA1_80, AES_256_CM_HMAC_SHA1_80, AEAD_AES_128_GCM or AEAD_AES_256_GCM

Early media:
Configurable for outgoing calls Media management: early offer or late offer Packaging: ptime according to codec or configurable, 10-200 ms

Video:
incoming

Video resolution:
QCIF = 176x144, QVGA = 320x240, CIF = 352x288, VGA = 640x480, 4CIF = 704x576, SVGA = 800x600, XGA = 1024x768 oder 720P = 1280x720

DTMF transmission:
SIP INFO or RFC 2833

DSCP:
Classification individually adjustable for SIP protocol, audio and video transmission

Jitter compensation:
for audio and video, 0-200 ms

IP intercom station

Technology:
Peer-to-peer intercom station
Automatic device detection via mDNS Secure data exchange via HTTPS Communication via SIP direct calls without server Video transmission via MJPG stream or SIP video

System capacity:
max. 100 Behnke stations
max. 9 intercom station groups
max. 99 intercom IDs for indoor stations

Configuration:
Via the web interface (all settings)
Via a Behnke indoor station (important settings)

Hybrid operation:
Additional connection to a telephone system
Operation as a SIP telephone

Multi-network intercom station:
max. 8 different networks per intercom station
max. 1 active (outgoing) network bridge per device
max. 3 passive (incoming) network bridges per device

Firmware:
Update via the web interface Simple distribution to all devices via synchronisation

Non-Behnke stations:
Integration of up to 9 IP stations (= non-Behnke stations)
Behnke SIP telephones (= BT-IP) of generations 1 and 2 Behnke IP cameras
Door opening via DTMF or UDP code Other SIP telephones and IP cameras (subject to limitations)

Additional functions:
Integration of an additional access door without Behnke station Automatic video preview when motion is detected

Display

Supported displays:
small (3.5") or medium (7") Behnke Touch display
Resolution: 1024x600
Horizontal and vertical opening angle: 170°

Features:
Direct call buttons (small display: up to 10, medium display: up to 30), telephone function, code lock function, telephone book, logo, information text, display of pictograms, status texts and call destination

Backlight:
0–100 %, switchable according to schedule
Touchscreen: resistive, adjustable pressure sensitivity, calibrateable

Screen saver:
after 5-90 s, can be deactivated by touching the display

Using the device

Phone function:
Dialling any phone number

Code lock function:
Entering a code to control a relay with it

Telephone directory:
300 entries max.
Grouping of entries possible, Adjustable font size, text alignment and display order, Operating notes Grouping of entries with the same initial letter, Search for initial letter, Export/import of the telephone directory and provision as a download, Telephone directory synchronisation with an LDAP server, Functions when selecting an entry: Call, group call with 2-4 numbers, call chain with 2-4 numbers, call according to schedule, door opening always or according to schedule, output of individual voice announcement

Logo:
Uploading an image file in JPG, PNG, GIF or BMP format with 10 Mbit max., adjustable display size, automatic image optimisation, triggering of a function on touch possible,
Information text: up to 8 lines, adjustable font size, font colour and text alignment, triggering of a function on touch possible

Connection

Call answering:
Automatically after 0–60 s, manually by pressing a button or rejecting incoming calls, silent call acceptance with muting possible Querying of a code to enable the connection possible

Connection establishment:
unlimited or 5 s - 5 min max. separately adjustable for single calls and call chains

Connection interval:
Unlimited or 1-9 min max.
Disconnection adjustable: allowed after 1-30 s, not allowed

Display keys:
small display: 10 max.
medium display: 50 max.

Features:
Call, group call with 2-4 numbers, call chain with 2-4 numbers,
call according to schedule, door open always or according to schedule, output of individual voice announcement
Number of relays: 2

Operating mode:
Adjustable per relay: Door opener relay, connection indicator, additional bell or fault indicator

Switching voltage:
30 VDC / 30 VAC max.

Switching current:
2 A max.

Switching capacity:
60 W / 60 VA max.

Cable length:
30m max.

Switching contact:
when operating as a door opener relay:
Normally open or normally closed contact,
otherwise: Normally open contact

Door opener relay:
Control of a door opener for opening an access

Opening time:
1-90 s

Codes:
9 max., valid for in-house remote station or code lock, always or according to schedule Manual, permanent opening (can be activated via codes) or automatic opening according to schedule possible Activation via door opener button possible, always or according to schedule, logging of access control by e-mail

Connection indicator:
Activation of the relay when the device is connected, can be activated for incoming connection, outgoing connection or outgoing connection after the remote station is answered

Additional bell:
Activation of the relay during ringing on an incoming call, at the start of a direct call (1-90 s) or during setup of a direct call

Fault indication:
Control of the relay when a fault (network connection, SIP registration) is present on the device

Lock function:
automatic, time-delayed opening of a second access

Delay duration:
1-90 s

Webhooks:
Sending a URL via the network during activation or deactivation of the relay Trigger

Features to be triggered:
Call, group call with 2-4 numbers, call chain with 2-4 numbers, call according to schedule, door opening always or according to schedule, output of individual voice announcement Alarm input: 5-24 VDC

Triggering:
with rising and/or falling flank

Debounce duration:
50-1500 ms

Minimum rising/falling edge duration:
none, 1 s - 60 min

Cable length:
30m max.

Schedule:
Execute calls or commands at a specific time

Triggering:
at the beginning and/or at the end of a valid time period of the schedule

System start:
Execution of calls or commands after starting the device

Daily audio test:
Regular checking of the functionality of loudspeaker and microphone
Triggering of a call or a command or display of a fault in the event of a detected audio problem

Noise alarm:
Available when noise detection is activated
Minimum noise level: 70–95 dB (trend) Minimum duration of high/non-high noise level: 0-120 ss

Acoustics

Audio test:
Function test for loudspeaker and microphone

Noise detection:
switchable: Measuring and evaluating ambient noise
Volume: 0-100 %
automatic volume increase in noisy surroundings: off or from a certain volume class (1-5)

Audio amplifier:
1 W output power
Microphone sensitivity: 0-100 %
IP audio: Transmitting/reception gain: -10-10 dB
echo barrier
Echo cancellation
Acoustic notifications: adjustable, tone or voice output Individual voice announcements: 9 times 30 s max. Uploading a WAV file (16 kHz, 16 bit, mono) with 1 Mbit max. Generation of voice announcements from text (requires Internet connection, currently (11/2025) free of charge, subject to change)

System

Configuration:
Saving/restoring the configuration
Firmware: 2-slot system Update via the web interface or via auto provisioning
Signed and encrypted firmware files
Auto provisioning: possible: at startup, every 5/30/60 minutes or during the night
Setting the URL or transmission via DHCP option 66 or 43

Supported protocols:
TFTP, FTP, HTTP, HTTPS
Receiving a configuration file (complete or partial), a telephone directory or a firmware update

API:
HTML API via HTTP or HTTPS
Enquiring about/changing the configuration
Enquiring about status information
Triggering events
Special functions: System protection
System monitoring Automatic restarts Temperature monitoring with shutdown

Operating temperature range:
-20 to 50 °C

Compliance:
CE, RoHS EN55035, EN55032, EN62368-1

8. LEGAL INFORMATION

1. We reserve the right to change our products, without notice, in line with technical progress. As a result of continuous development, the products illustrated may look different from the products actually delivered.

2. Reprints or adoption of texts, images, and pictures in any media from this manual – even in excerpts – is only permitted with our express written permission.

3. Design and layout of these instructions are copyright protected. We do not assume any liability for possible errors, contents errors and misprints (including technical data or within images and technical diagrams).

Information with regard to product liability

1. All products mentioned in these instructions may only be used for the purpose intended.
In case of doubt, please contact a competent specialist or our services department (cf. telephone numbers).

2. Products with a power supply (especially when mains-operated at 230 V) must be disconnected before opening or during installation.

3. We are not liable for damages and consequential damages due to modifications of or changes to our products or due to improper use. This also applies to improper storage or external influences.

4. Please observe the respective guidelines for working with voltages of 230 V, mains-powered or battery-powered products, e.g. directives for complying with the electromagnetic compatibility or the Low Voltage Directive. Please leave corresponding work to trained specialists familiar with the matter.

5. Our products meet all technical guidelines and telecommunications regulations currently applicable in Germany and the EU.

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A male electrician works in a switchboard with an electrical connecting cable © puhimec / Modern home facade with entrance, front door and view to the garden - 3D rendering © Wilm Ihlenfeld / Hardware tools including cordless drill and monkey spanner © monticellllo

CE **Electromagnetic Compatibility and Low Voltage Directive**

Notes

Notes

Notes

2886_0825 TCB

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