



Product information

PAK

Front-door stations series for surface-mount

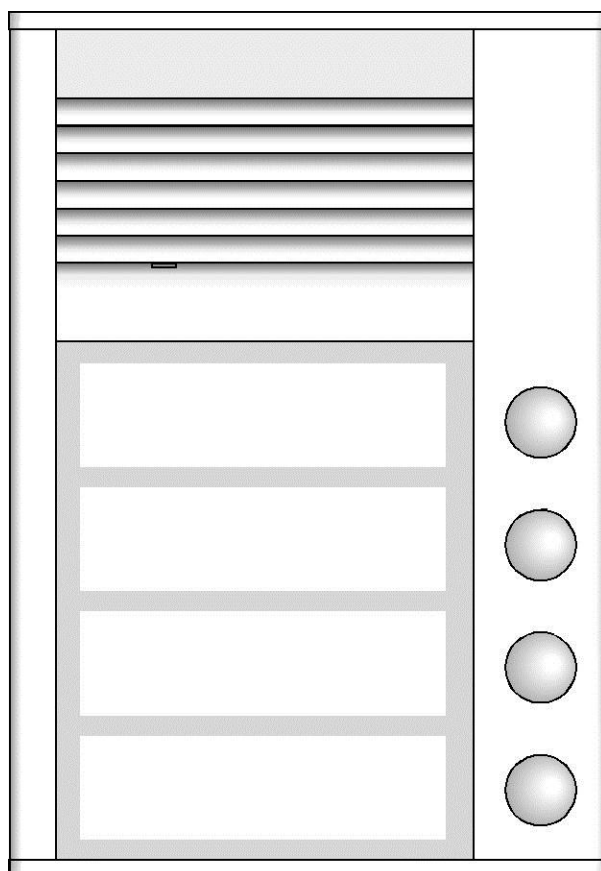


Table of contents

Table of contents	2
Scope of delivery	2
Safety instructions.....	3
General safety regulations	3
Installation – protective measures	3
Device overview.....	4
Technical data	4
Intended use	5
Short description.....	5
win:clip™ system	6
Installation.....	6
Connect the lines	7
General information.....	7
Connectiong	7
2-wire special operation	7
Wiring example.....	8
Connection diagram	8
Commissioning	8
Labelling the nameplates	9
Setting the volume of microphone and loudspeaker	9
Bell button programming.....	10
Basic principle	10
Programming a bell button	10
Programming a second indoor station at a bell button (parallel call)	12
Delete the programming.....	13
General information on the conduit in TCS audio systems	14
Principle loop resistance	14
Measurement loop resistance.....	14
Repair	15
Replace the EEPROM storage.....	15
Cleaning.....	15
Conformity	16
Information on disposal.....	16
Warranty	16
Accessory	16
Service.....	16

Scope of delivery

1 x front-door station PAK01-EN (... PAK08-EN)
 1 x nameplate
 1 x win:clip™ key
 1 x insertion aid
 1 x screw driver
 product information PAK

Safety instructions

General safety regulations

! Attention! Mounting, installation, commissioning and repair of electronic devices have to be carried out only by qualified electricians. Thus, the standards and instructions of systems have to be observed.

For working on systems with main connection of 230 V alternating voltage, the safety requirements according to DIN VDE 0100 must be observed.

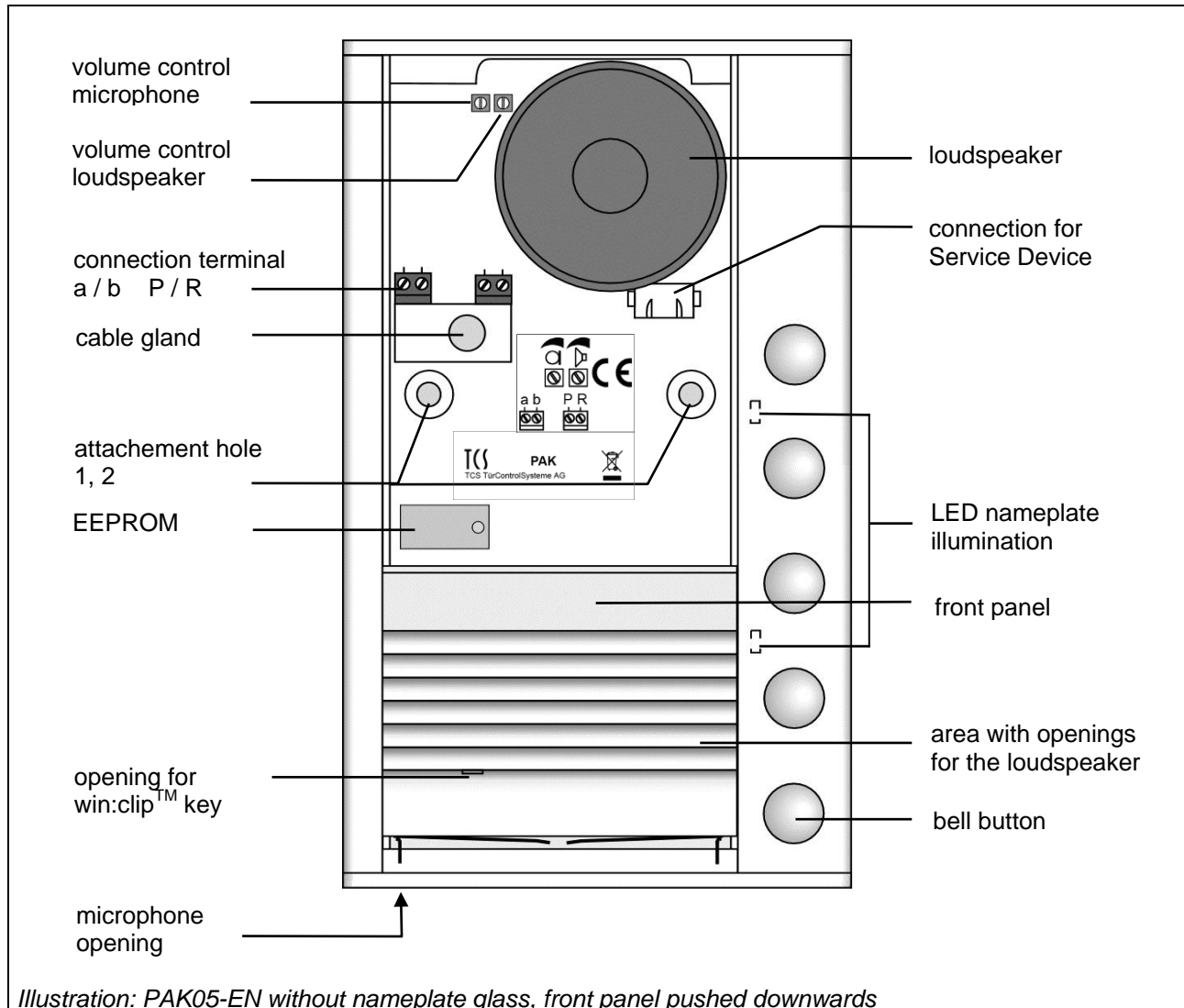
When installing TCS:BUS systems, the general safety regulations for telecommunication systems according to VDE 0800 must be observed. Inter alia:

- separated conduit of heavy current and low current lines,
- minimum distance of 10 cm in case of a common conduit,
- use of separators between heavy and low current lines within shared cable ducts,
- use of standard communication lines, e. g. J-Y (St) Y with a diameter of 0.8 mm
- existing lines (modernisation) with deviating cross-sections can be used in compliance with the loop resistance

Installation – protective measures

! With suitable measures to protect against lightning, it has to be ensured that a voltage of each 32 V DC is not to be exceeded at the connections a, b, P, R.

Device overview



Technical data

supply voltage	+24 V ± 8 % (Versorgungs- und Steuergerät)
housing	aluminium, anodised (colors as in price list)
nameplate	acrylic glass
H x W x D	153 to 241 x 104 x 16 mm
weight	335 g (PAK01) to 600 g (PAK08)
acceptable ambient temperature	-20 °C to +50 °C
input current (3-wire technique)	I(a) = 0.4 mA, I(P) = 10.6 mA
max. input current (3-wire technique)	I(Pmax) = 19 mA
input current (2-wire technique)	I(a) = 11 mA
max. input current (2-wire technique)	I(amax) = 32.6 mA

Intended use

The PAK are front-door stations in compact design (projection height of only 16 mm) for outdoor usage.

They are suitable for surface-mount.

Short description

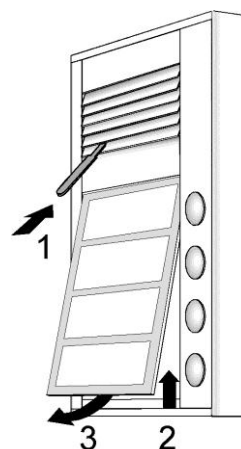
- for up to 8 flats
- win:clip™ principle
- size of the namefield: H from 19 mm to 53 mm x W 62 mm
- size of the information field: H from 19 mm to 37 mm x W 62 mm
- metal housing of robust aluminium profiles
- bell buttons made of metal with gold-plated, maintenance-free contacts
- each bell button can be allocated with two indoor stations
- long-life and energy saving name and information plate illumination
- shatter-proof name plate glass
- acknowledgement tone when pressing the bell button
- communication time ex works: 56 sec / adjustable with Service Device or configo™
- any bell button can be used to switch the light, light symbol enclosed
- volume and microphone sensitivity can be adjusted manually
- plug-in memory to easily replace front-door stations identical in construction
- R-terminal to connect an extended function - door release
- door release time at R-terminal ex works: 3 sec / can be adjusted with configo™
- door standby time (to control the short-term memory within the indoor station) ex works: 56 sec / adjustable with configo™
- voice communication within the door standby time / adjustable with Service Device or configo™

win:clip™ system

The device is equipped with the win:clip system, thus opening and closing the station can be realised without screws.

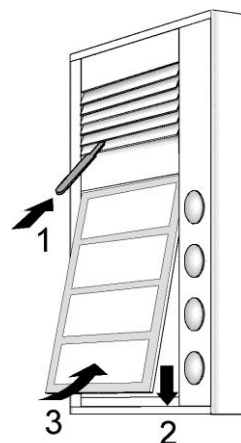
Open the housing

1. Push the enclosed win:clip key into the small opening within the loudspeaker cover. Press the key into the opening until stop and keep it in this position.
2. Push the name plate glass slightly upwards until it jumps out.
3. Remove out the glass.
4. Remove the win:clip™ key.



Close the housing

5. Push the enclosed win:clip key into the small opening within the loudspeaker cover. Press the key into the opening until stop and keep it in this position.
6. Push the name plate glass under the loudspeaker cover.
7. Press the name plate glass onto the device. Push it slightly downwards until it snaps-in.
8. Remove the win:clip™ key.



Installation

! For a fully operational function of the microphone a distance of **5cm** below the device must be observed!

1. Open the front-door station (see win:clip™ system).
2. Break through the foam cover at the backside of the device carefully and insert the lines through the cable gland.
3. Install the front-door station at both attachment holes with suitable screws to the wall.

! Take care that the lines are not clamped under the spacer on the backside of the device.

Connect the lines

General information

Connect the lines with the enclosed small screwdriver to prevent damaging the device.

! Please observe that no line will be clamped below the spacer at the backside of the front-door station.

Connectiong

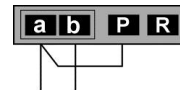
1. Strip the cable ends.
2. Connect the lines depending on the type of system and according to the wiring diagram.

2-wire special operation

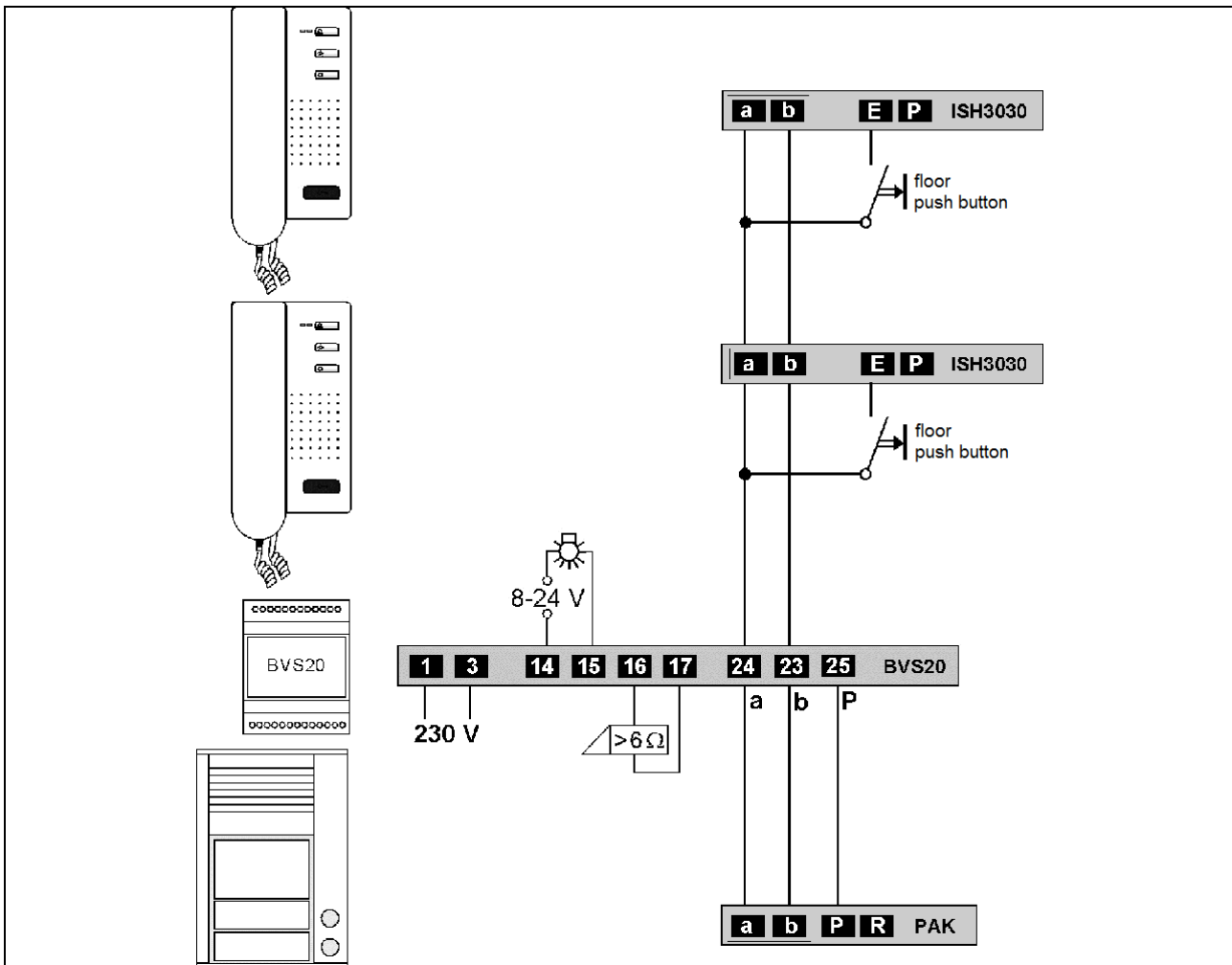
In this operation mode, only one front-door station can be connected!

One P-wire is to be built by a jumper between terminal a and P.

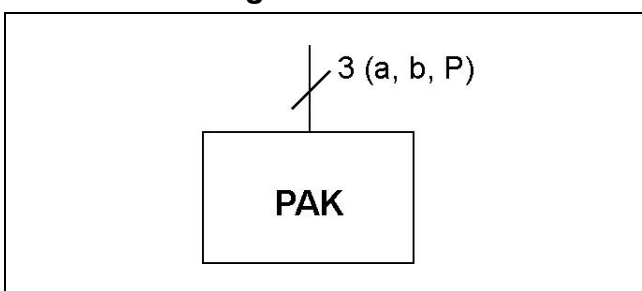
Note: The front-door station is not working, if the jumper is set at b.



Wiring example



Connection diagram



Commissioning

- Install the devices of the system completely.
- Check the a, b and P wire against each other for short-circuits.
- Switch on the mains voltage

Labelling the nameplates

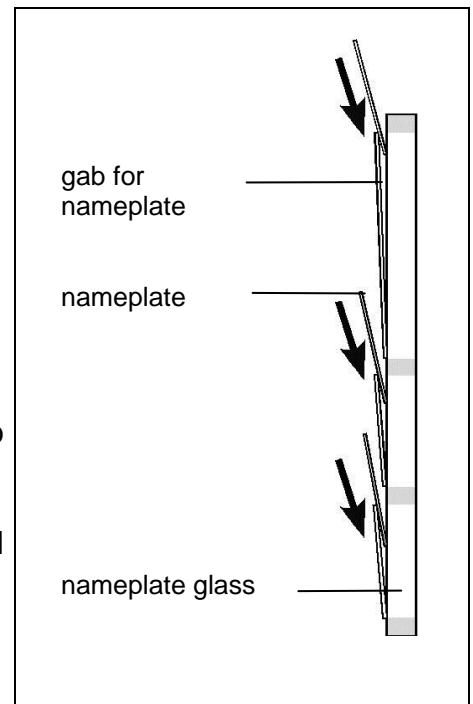
Please find the templates under:

www.tcsag.de > Downloads > Produktnutzung > Vorlagen für Namensschildbeschriftungen > Namensschildbeschriftung Außenstationen der Serien PAK und PUK.

1. Fill in the required names into the template. Print out the name tags on the special foil* and cut them to size. Or label the enclosed tags.
2. Push the cut tags from above into the gabs in the name plate glass. For an easy insertion, use the insertion aid (plastic platelet, within the scope of delivery), to open the gabs.

The inserted in name tags stand 2 mm above the gab and can be easily pulled out upwards.



* We recommend, printing the name tags on a resistant special foil. The foils can be ordered directly at TCS: Printable polyester foil for name tags DIN A4, see also Accessory, page 16.



Setting the volume of microphone and loudspeaker

! Use the enclosed small screwdriver for the setting!

Ex works the volumes are adjusted on an average. A change isn't always necessary. Please observe when adjusting:
The volume of loudspeaker and microphone cannot be adjusted independently of each other. When the volumes are too high, there is a back coupling effect (whistling).

volume control	
microphone	loudspeaker
control the volume at the indoor station	control the volume at the front-door station
	

Bell button programming

Basic principle

- All devices at the TCS:BUS have got an unique serial number.
- When programming a bell button, the serial number is allocated to an indoor station and stored in the EEPROM of the front-door station. Per bell button, 1 or 2 indoor stations (serial numbers) can be allocated and called.
- When a bell button is not allocated to a serial number (condition ex works/allocation deleted), this button can be used to switch lights.

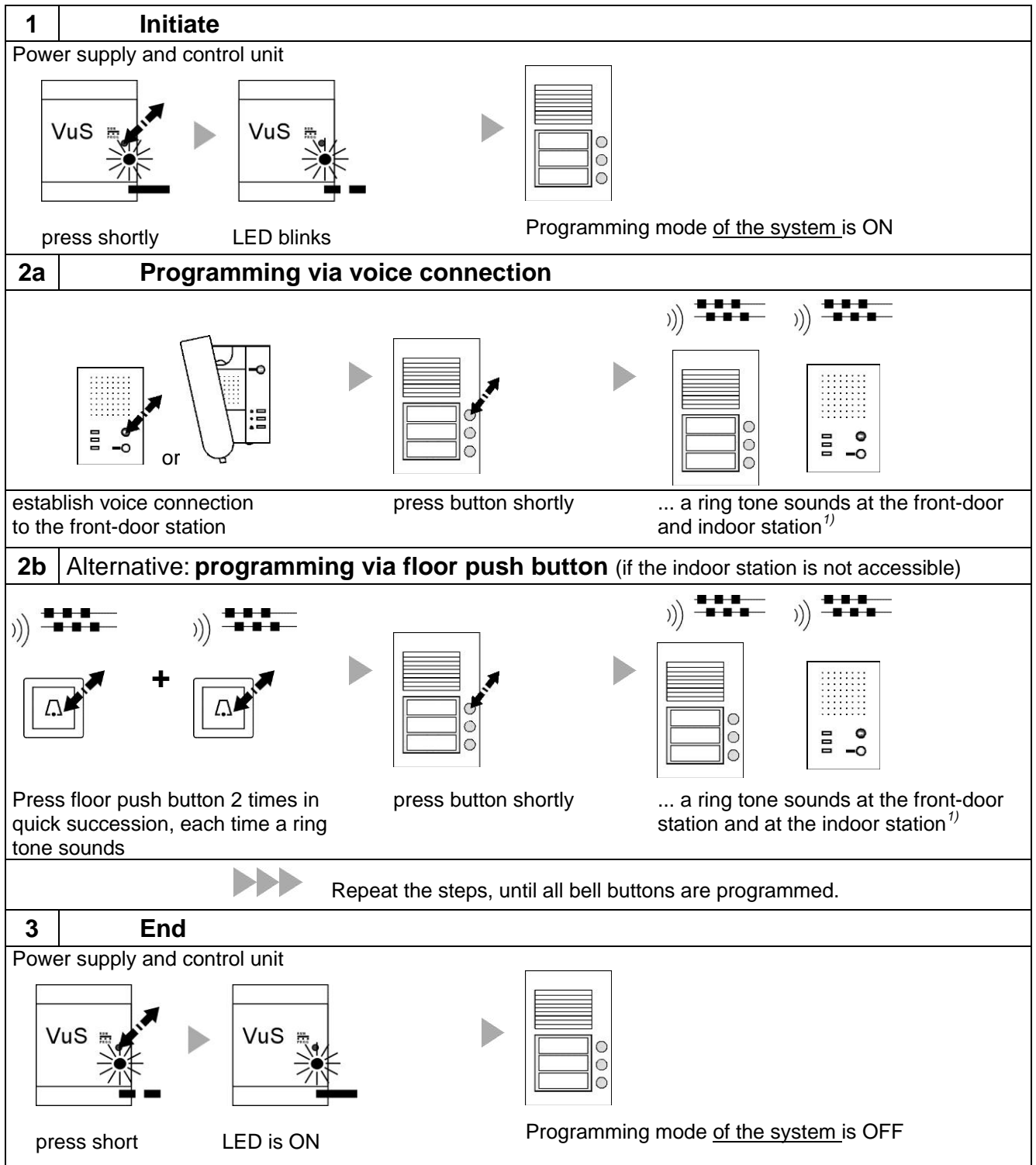
Programming a bell button

Make sure that the indoor station is connected to the TCS:BUS and the mains voltage is switched ON (the LED at the power supply / control unit is ON).

! Before an already programmed bell button can be programmed anew, the previous programming must be deleted.

Legend

press button shortly		busy tone	
press button until		negative acknowledgement tone (bell button already programmed)	
release button		SNapp tone	
LED blinks		negative acknowledgement tone (NoProg tone)	
LED blinks fast		delete-melody	
LED is ON		Prog2 tone (start programming of the 2nd serial number)	
ring tone		repeat	
Progsper tone		further	
period of time (e.g. 6 s)			



1) If a Progsper tone sounds instead, a programming lock is set in the front-door station. The programming lock can only be removed with the Service Device TCSK-01

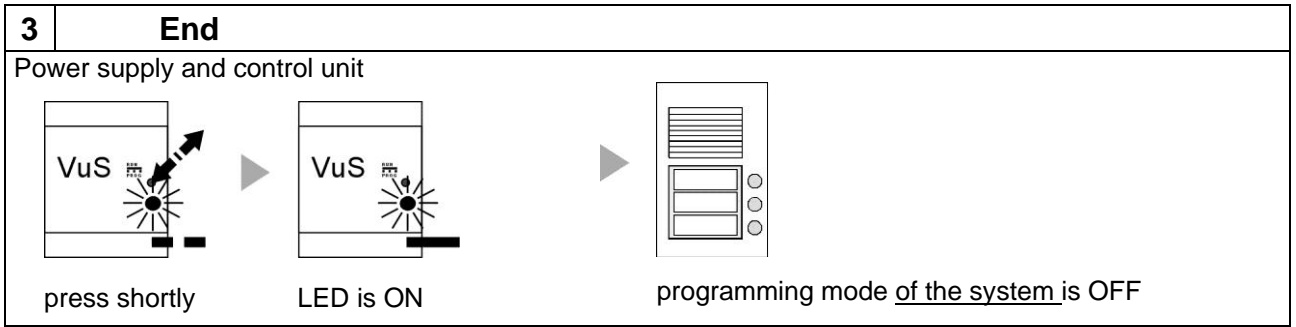
Programming a second indoor station at a bell button (parallel call)

The parallel call is calling 2 indoor stations from the bell button of the front-door station. The floor push button is only calling the permanently wired indoor station.

If bell button and floor push button are to have the same functionality, the function parallel allocation must be used. Thus several indoor stations are reacting on the same bell button as well as on the same floor push button. The parallel allocation has to be adjusted with the Service Device TCSK-01 or the configuration software configo™.

Note: Repeated programming of an already programmed bell button always changes only the second serial number. If you want to change the serial number programmed first, you have to delete both serial numbers and reprogram the device again.

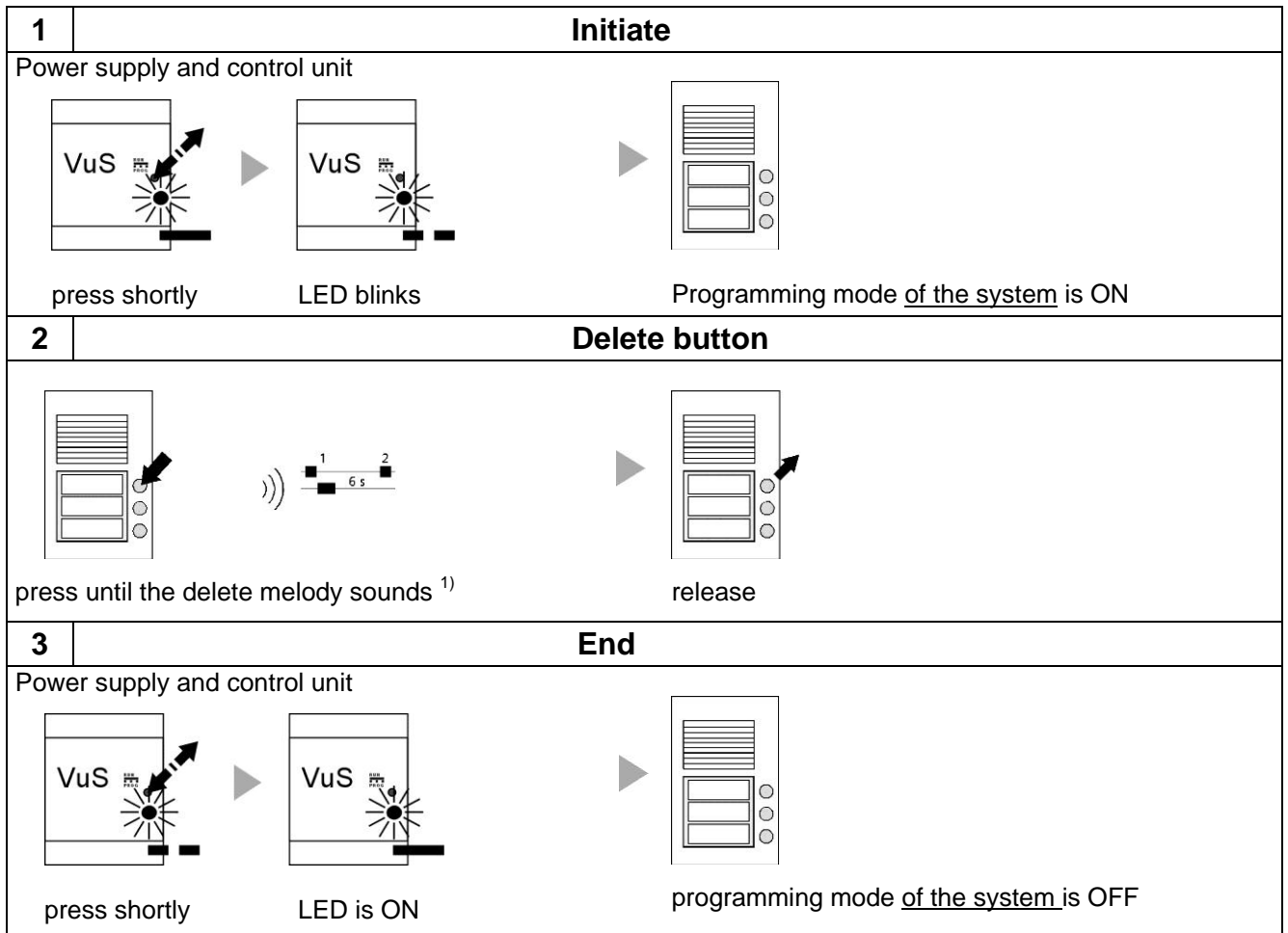
1	Initiate
Power supply and control unit	
<p style="display: flex; justify-content: space-around;"> press shortly LED blinks Programming mode of the system is ON </p>	
2a	Programming via voice connection
<p style="display: flex; justify-content: space-between;"> establish voice connection to the front-door station press button until a Prog2 tone and a NoProg tone and a ring tone at the front-door and indoor station sounds ¹⁾ release </p>	
2b	Alternative: Programming via floor push button (if the indoor station is not accessible)
<p style="display: flex; justify-content: space-between;"> press floor push button for 2 times in quick succession, each time a ring tone sounds press button until a Prog2 tone and a NoProg tone and a ring tone at the front-door station and indoor station sounds ¹⁾ release </p>	
Repeat the steps, until all bell buttons are programmed.	



1) If a Progsper tone sounds instead, a programming lock is set in the front-door station. The programming lock can only be removed with the Service Device TCSK-01 or the configuration software *configo*TM

Delete the programming

Before an already programmed bell button can be reprogrammed, the previous programming must be deleted.



1) If a Progsper tone sounds instead, a programming lock is set in the front-door station. The programming lock can only be removed with the Service Device TCSK-01 or the configuration software *configo*TM.

General information on the conduit in TCS audio systems

The conduit is determined by structural conditions and is limited only by its length.

- Observe when selecting the cable length: the loop resistance must not exceed 20 Ω (table).
- To keep the max. permitted loop resistance, the cross-section of the wire can be doubled, that means, for one wire two lines are used (illustration). The lines must be twisted.
- When using shielded lines: connect the shields with each other and connect one side to ground (b-wire) at the power supply.
- Optional strand or star formed wiring.

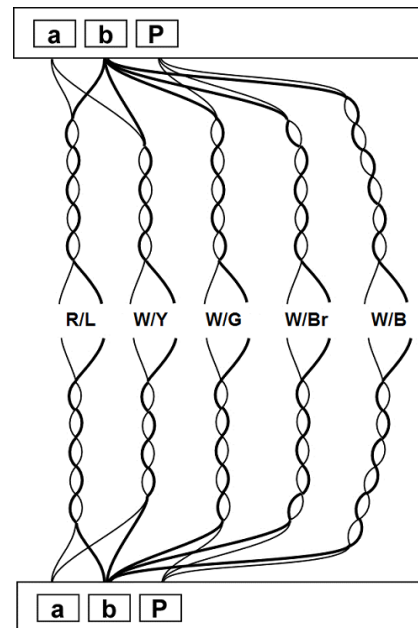


Table: loop resistances

cable length in m	cable diameter	
	0.6 mm	0.8 mm
	loop resistance in Ω	
10	1.28	0.71
20	2.55	1.43
30	3.83	2.14
40	5.10	2.86
50	6.38	3.57
60	7.65	4.29
70	8.93	5.00
80	10.20	5.71
90	11.48	6.43
100	12.76	7.14
150	19.13	10.71
200	25.51	14.29
250		17.86
300		21.43

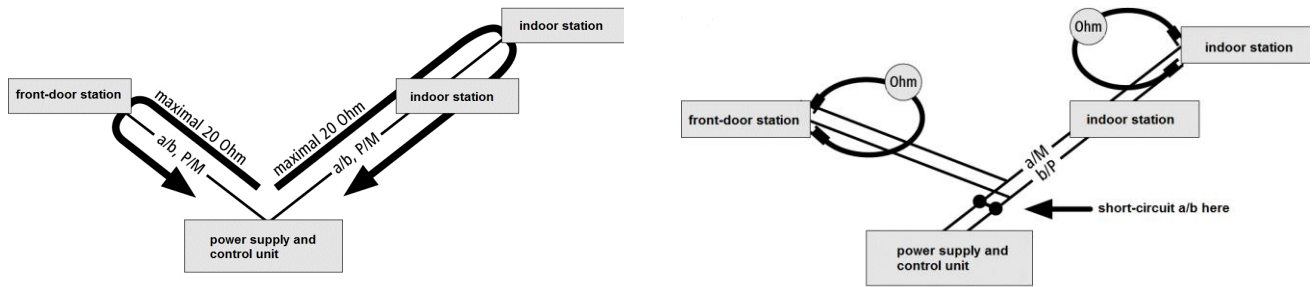
Principle loop resistance

None of the devices (AS, IS or FE) should be further than 20 Ohm away from the power supply and control unit (VS).

Measurement loop resistance

Procedure of measuring:

- Switch off the 230 V / 50 Hz of the power supply and control unit.
- Install a/b short-circuit at the power supply and control unit.
- Other devices are not disturbing the measurement, they can stay connected.
- Measure the resistance at a/b at the last indoor or front-door station



Rule for 20 Ohm:

Distance from TCS:BUS® power supply to the remotest front-door or indoor station:

- by **0.6 mm** wire diameter **max. 160 m**,
- by **0.8 mm** wire diameter **max. 280 m**

Repair

Replace the EEPROM storage

All programmed data such as serial numbers and parameters are stored in the EEPROM. If the door loudspeaker has to be exchanged, the EEPROM board can be removed from the programmed front-door station and inserted into a new, identical constructed front-door station.

! Before replacing the EEPROM switch OFF the supply voltages!

- Open the housing, respectively row.
- Pull off the small PCB from the electronic circuit board.
- Put the EEPROM boards into the new, unprogrammed front-door stations onto the pins. Make sure that all four poles of the pin are plugged into the socket of the small PCB and that the component site can be seen.
- After the exchange, all programming are available again.

Cleaning

! Avoid water from entering the device!
Do not use any abrasive detergents!

Clean the device with a dry or slightly wet cloth.
Remove stronger stains with a standard plastic cleaner.

Conformity



The declarations of conformity are available under www.tcsag.de > downloads > trade information.

Information on disposal



The adjoining symbol shows, that the device has to be disposed separately from domestic waste. The materials used are recyclable. Please do help protecting our environment and dispose the device via a collection point for electronic scrap.



Dispose the parts of the packaging in collecting tanks for cardboard and paper resp. plastics.

Warranty

We offer a **simplified processing** in case of warranty for electricians.

- Please note our **conditions of sale and delivery**, download from www.tcsag.de > downloads > trade information and included in our current catalogue.
- Please contact the **TCS HOTLINE**.

Accessory

short text	article number
laser film foil matt in A4 format	0001060
spare part key front-door / indoor stations	E32649

Service

Please send your questions and inquiries to

hotline@tcsag.de

Headquarters

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