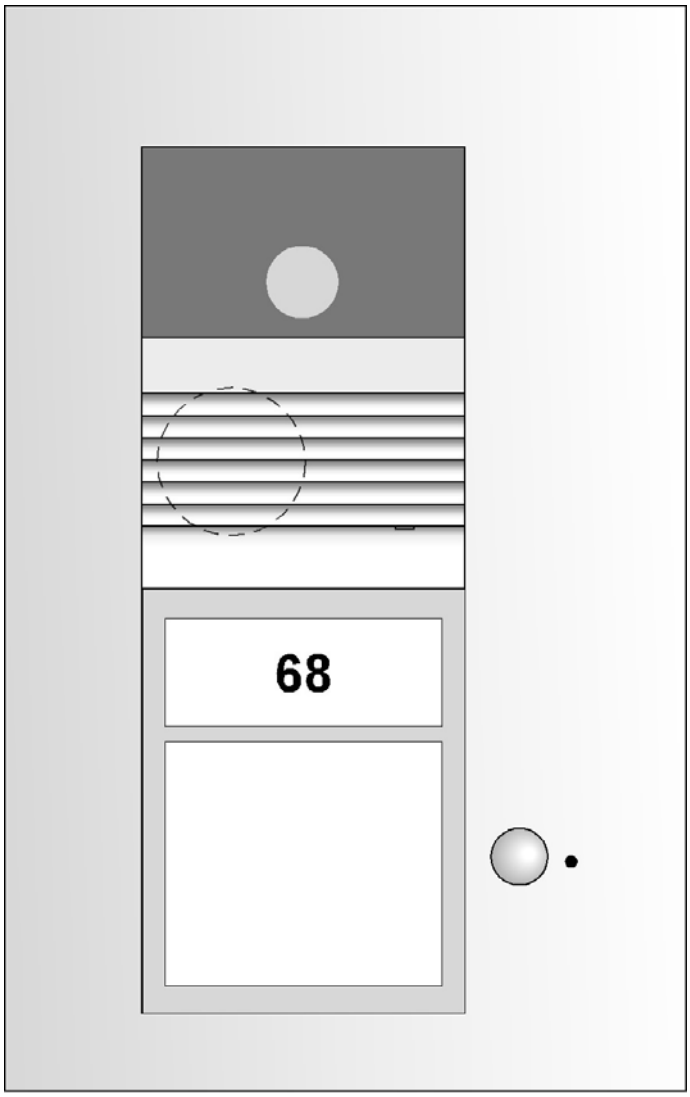
Product information

Front-door station series with colour-video for flush-mount AVU14xx0, 15xx0, 16xx0



TCS TürControlSysteme AG • Geschwister-Scholl-Str. 7 • 39307 Genthin
Phone.: +49 39 33 / 87 99 10 • Fax: +49 39 33 / 87 99 11 • www.tcs-germany.com

Subject to change without notice.
PI_GB_AVU1_Art0016078_2v0.doc **mi**

Table of contents

Safety notices

! Assembly, installation, and commissioning must only be carried out by a qualified electrician!

For work on systems with 230 V AC mains voltage the safety requirements of DIN VDE 0100 must be observed.

When installing TCS:BUS systems the general safety rules for telecommunication systems in accordance with VDE 0800 must be observed:

- separate cabling for high and low voltage lines,
- minimum distance of 10 cm for joint cabling arrangements,
- use of separators between high and low voltage lines in joint cable ducts,
- use of standard telecommunication cables, e. g. J-Y (St) Y with 0.8 mm² cross section,
- existing cables (modernisation) with different cross sections may be used whilst taking account of the loop resistance.

! Suitable lightning protection must ensure that a voltage of 32 V DC will not be exceeded at the TCS:BUS wires a and b.

Scope of delivery

1 x AVU14XX0, 15XX0, 16XX0 (incl. concealed box)
1 x win:clip key
1 x screwdriver with round handle
1 x key for hexagon socket screws DIN911 (ISO2936)
connection terminal 5-pole
name plates
hexagon socket screws (for attaching the device in the concealed box, 2 per button row)
product information
programming table

General notes on the cabling in TCS video systems

Terms for 5 wire and 6 wire operation

6 wire operation	standard operating mode. Video operation where two separate earths (b and M) are being used.
5 wire operation	special operating mode. Video operation where b and M are joined to a single earth.

6 wire operation

The cabling depends on the building situation and is only limited by its length.

- When selecting the cable length consider: the loop resistance M-P must be max. 8 Ω (table 1).
- For loop resistance > 8 Ω: provide for multiple wiring of the lines (twisted pairs).
- choice of line or star wiring
- Do not use more than 6 video in-house stations per line. For systems with more video in-house stations provide for the use of video distributors (VT02, VT04).
- up to 64 front-door stations and an almost unlimited number of in-house stations can be connected polarity-free (a/b) to a system. (use suitable power supply and control unit.)

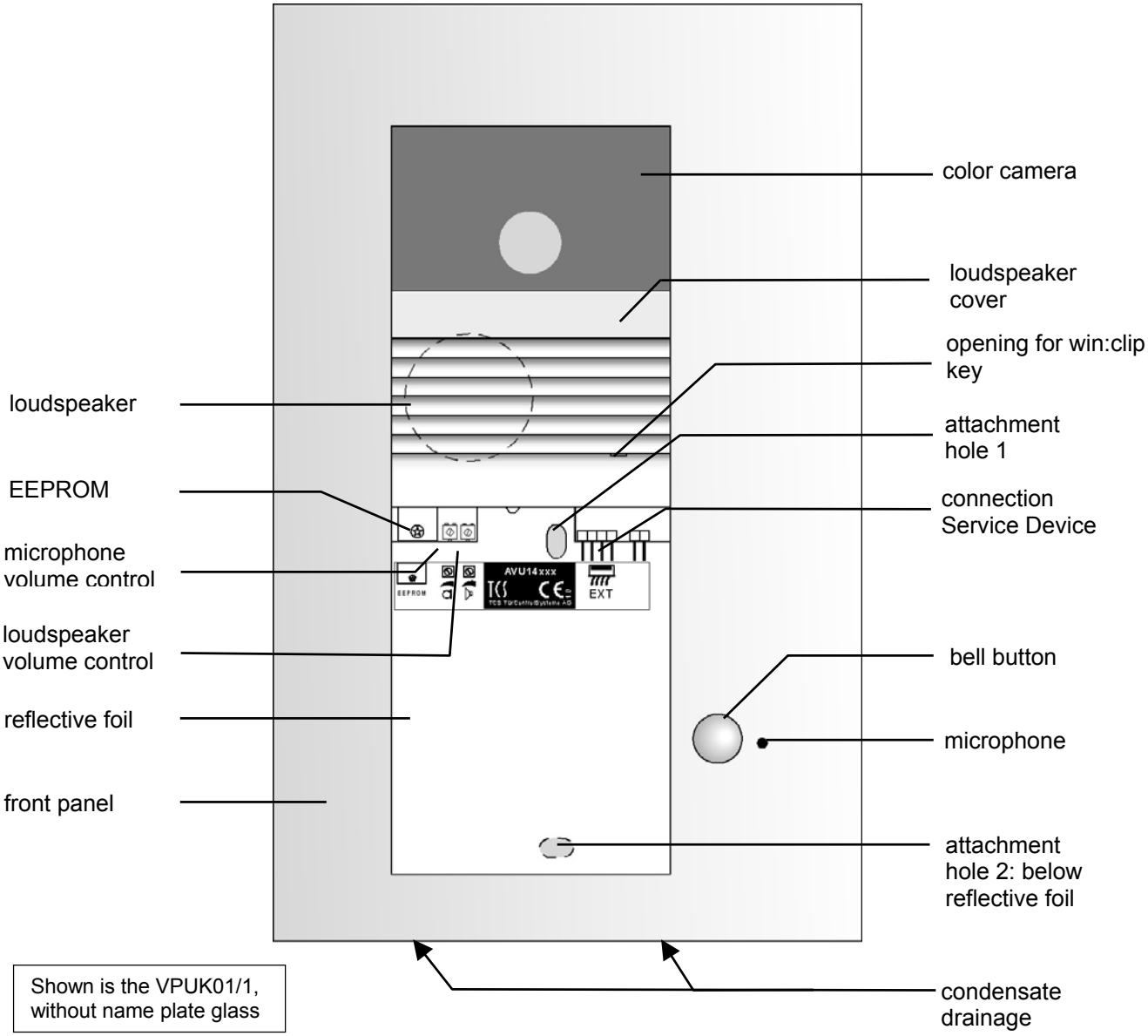
Table 1: Loop resistances

Line length M-P in m	**Line diameter**	
	0.6 mm	**0.8 mm**
	Loop resistance in Ω	
10	1.22	0.69
20	2.45	1.38
30	3.67	2.07
40	4.90	2.76
50	6.12	3.44
60	7.35	4.13
70		4.82
80		5.51
90		6.20
100		6.89

5 wire operation

Number of monitor in the system	max. permissible loop resistance in Ω
24	4,8
12	6,3
6	8

Device overview



Shown is the VPUK01/1, without name plate glass

Technical data

Supply voltage:	24 V ± 8 % (via power supply and control unit)
Case:	aluminium, anodised
Name plate glass:	plexiglass
Operating temperature range:	-20°C to 50°C
Input current (one column):	I(a) = 0.4 mA, I(P) = 120 mA standby
Input current (two columns):	I(a) = 0.8 mA, I(P) = 135 mA standby
Input current (three columns):	I(a) = 1.2 mA, I(P) = 150 mA standby
Maximum input current (one column):	I(Pmax) = 135 mA
Maximum input current (two columns):	I(Pmax) = 150 mA
Maximum input current (two columns):	I(Pmax) = 165 mA

camera features colour-camera: Sony CCD-sensor 420 TVL Super HAD
photo sensitivity: 0.2 Lux
automatic day/night switch
focal length: f = 3.6
diagonal capture: 90°
video output 1 Vpp composite video balanced
based on the TCS-video system in a 6-wire technique

Application

- AVU are video front-door stations for external use.
- They are characterised by their space-saving design.
- The housing is fitted with the win:clip system.
- The front panel consists of 3 mm strong aluminium.
- Universal assembly: Flush or in cavity wall.

Brief description

Basic functions

Bell buttons	• Operating a programmed bell button triggers a ringing tone at the in-house station. • Operating an unprogrammed bell button triggers the light switch function in the power supply and control unit. • When operating a bell button an acknowledgement tone sounds.
Saving the bell button allocations in the front-door station	All programmed data (serial numbers and parameters) are stored in the EEPROM. If the front-door station requires replacement, the EEPROM board can be removed from the programmed front-door station and inserted into the new front-door station of identical design.
Camera	colour-camera, image activation constantly enabled (video signal always connected)

Additional functions

Name plate illumination	Via LED, P-wire connection required.
connection	for Service Device
Allocation of serial number to bell buttons	2
additional switching signal	Use a combining device BRE2.

Assembly

Notes

Flush-mount box

- Feed the connection cable through the cable duct in the flush-mount box and attach it to the wall using suitable screws.
- The front-door station profile should fit flush with the base.

Front-door station

- Attach the front-door station from the attachment holes to the stud bolts in the flush-mount box using the hexagonal socket screws supplied.
- Take care not to over-tighten the screws. This would distort the case so that the loud-speaker cover and name plate glass could no longer be inserted or removed.

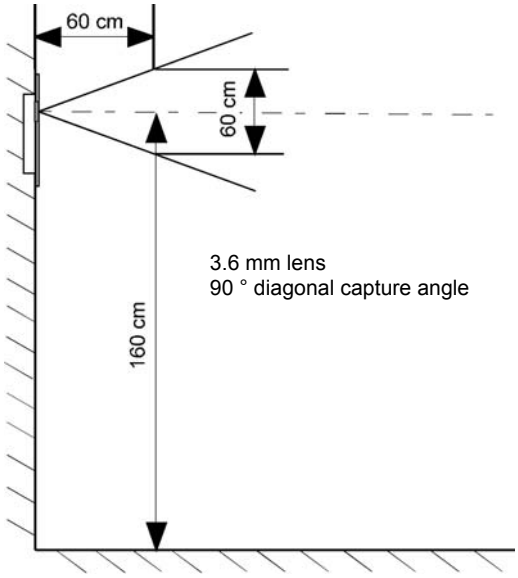
Installation location

To achieve a good video quality the camera must not point directly at:

- sunlight,
- strong sources of light,
- bright or strongly reflecting walls.

Installation height

The installation height for the video front-door station must be selected under consid-eration of the field of capture of the camera (see figure). Persons with average body height are best captured with an installation height of 160 cm above floor level.



win:clip system

The device is fitted with the win:clip system which enables opening and closing without the use of screws.

Opening the housing

1. Insert the win:clip key supplied into the small opening in the front panel.
Push the key into the opening up to the stop and hold it in that position.
2. Slide the name plate glass slightly upwards until it jumps out.
3. Remove the glass.
4. Remove the win:clip key.

Closing the housing

1. Insert the win:clip key supplied into the small opening at the front panel.
Push the key into the opening up to the stop and hold it in that position.
2. Slide the name plate glass under the front panel.
3. Press the name plate glass onto the device and slide it down slightly until it engages.
4. Remove the win:clip key.

! Never seal the device using silicon! Condensate must be allowed to drain and evaporate.

Cable connection

General notes

!	Use the small screwdriver supplied to connect the lines and prevent damage to the device.

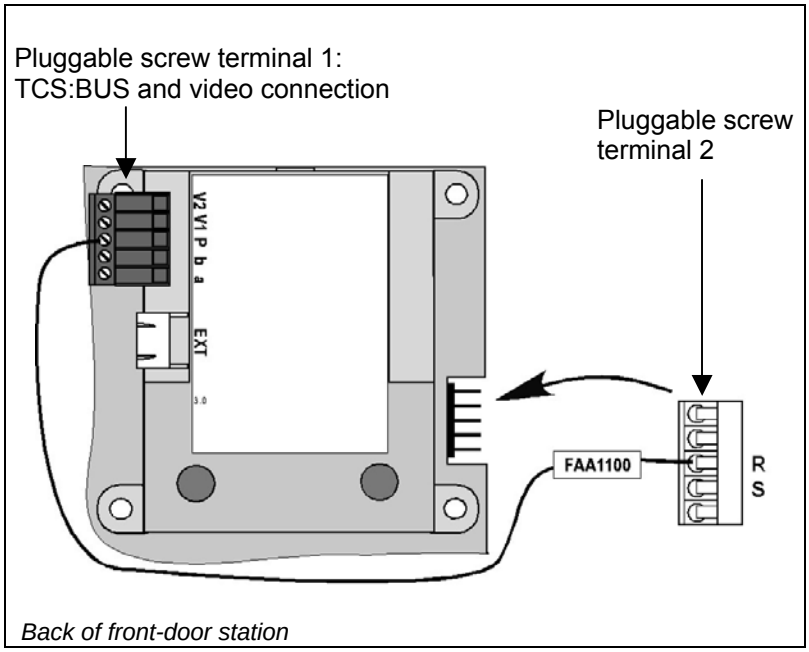
Connection

1. Strip the insulation from the line ends.
2. Connect the lines, depending on system type, in accordance with the wiring example.

Connection with 5-pole screw terminal

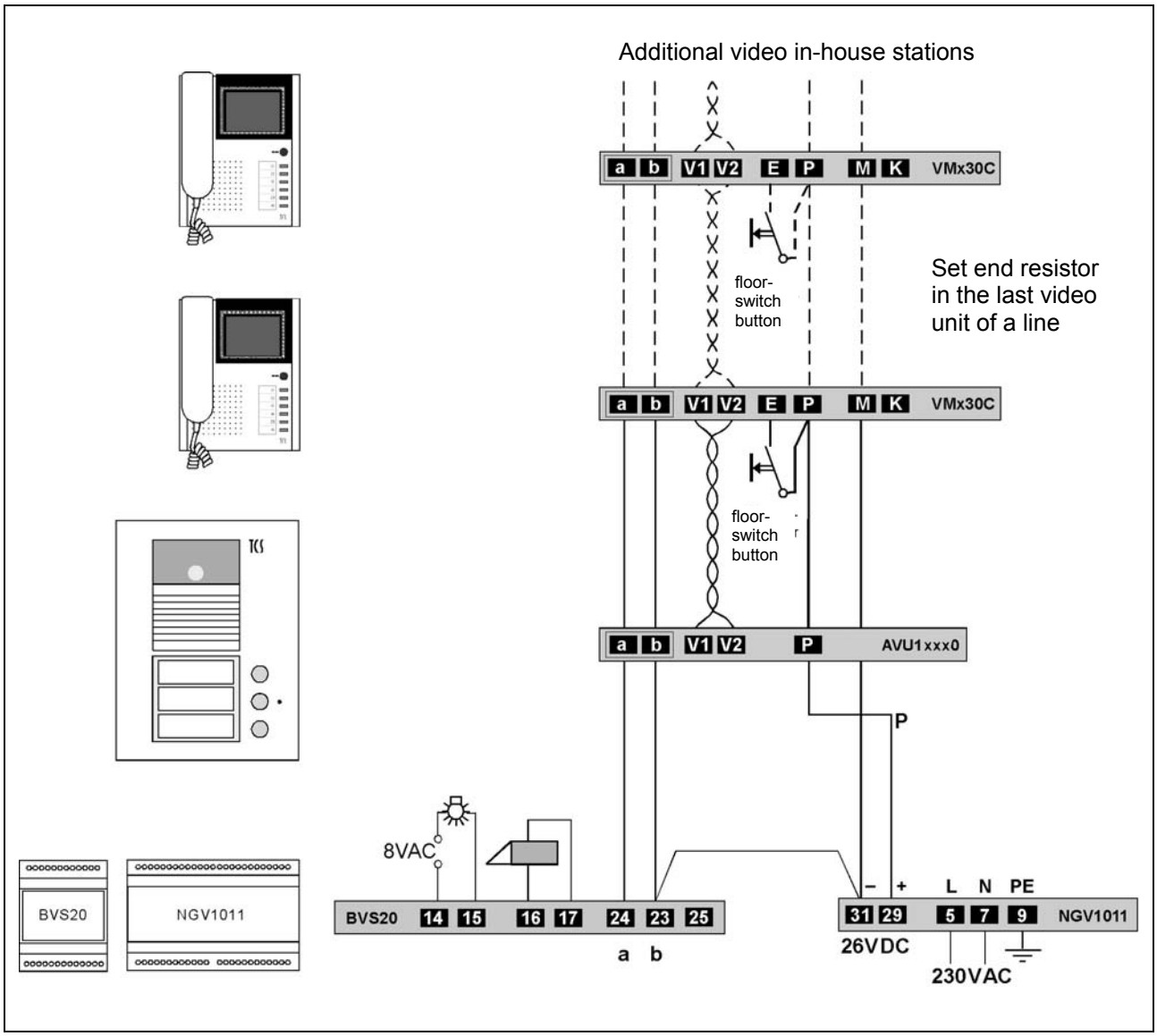
Connect with terminal 1:
- TCS:BUS, P and video cables,
- optionally: FAA1100 (TOER1) to P.

Connect with terminal 2:
- optionally: FAA1100 (TOER1) to R.

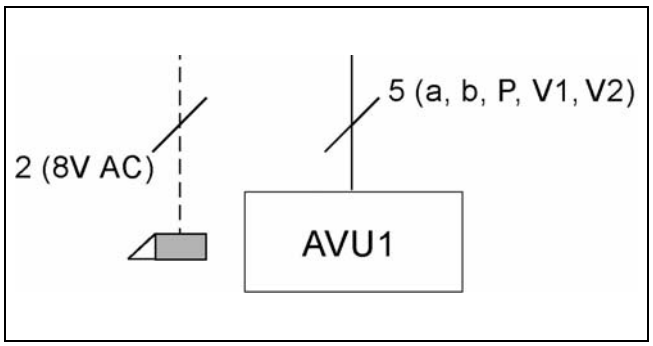


Back of front-door station

Wiring example



Connection diagram



Video commissioning

First fully install the system, then connect power!

- V1 and V2 must never - not even temporarily - be connected to the P, a or b wires. Such a connection would destroy the device.
- When connecting the video wires V1 (+) and V2 (-) the polarity must be observed. If the image is distorted after commissioning, switch off the device and replace the wires for the video signal.

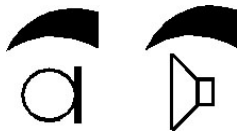
Microphone and loudspeaker volume setup

For adjustments use the small screwdriver supplied!

The volumes have been set to an average value at factory. A modification may not always be necessary.
When adjusting please note:
The amplification of loudspeaker and microphone cannot be set independently from each other.
Too great volume will cause a feedback effect (whistling).

Volume control

microphone	loudspeaker
In-house station volume adjustment	Front-door station volume adjustment



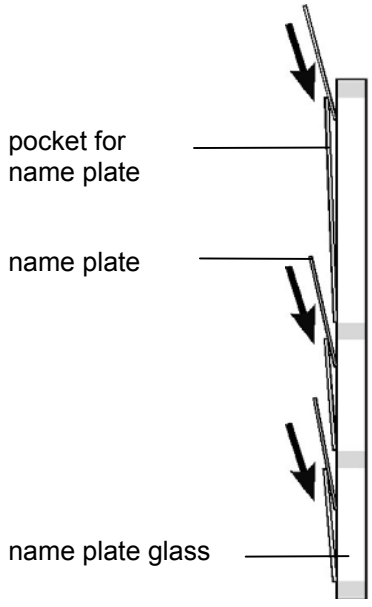
Nameplate labelling

The templates are available on our website www.tcs-germany.com \ English \ Downloads \ System and technology basics \ Product installation and use \ labelling of the nameplate

1. Enter the desired name into the template. Print the name plate on the special film* and cut it to size. Alternatively write on the plates supplied.
2. Insert the cut plates from above into the pockets in the name plate glass. Use the insertion aid (plastic plate, supplied) to assist with opening the pockets.

The inserted name plates now protrude 2 mm at the top of the pocket and can therefore be easily removed for replacement purposes.

* *We recommend to print the name plates on a durable special film. The film can be ordered directly from TCS: Writable polyester film for name plates DIN A4.*



Programming of bell buttons

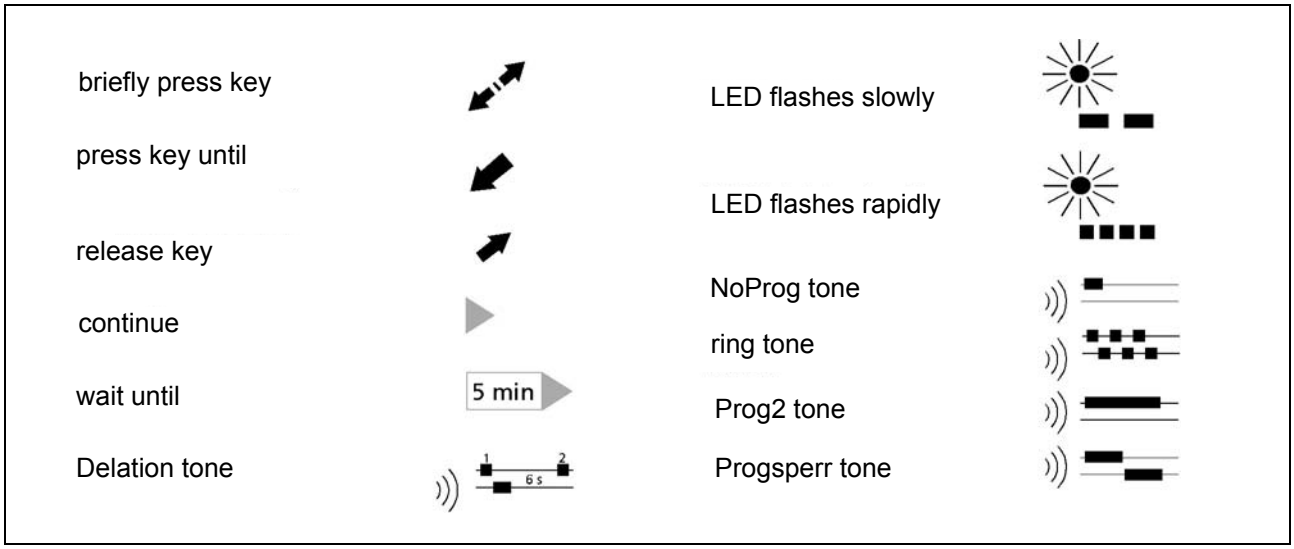
Basic principle

All devices at the TCS:BUS have a unique serial number. During programming this serial number is transferred to the front-door station and linked to the bell button.

Programming with the Service Device

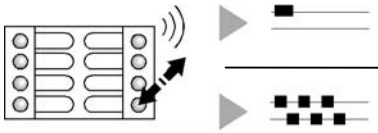
Utilise the simple 1 person programming with the TCS Service Device. You will not need access to the in-house stations in the flats. The voltage supply is provided by connecting the Service Device to the TCS:BUS. For more on the TCS Service Sevice see: www.tcs-germany.de
If you do not have the Service Device, you can also program manually.

Programming steps legend

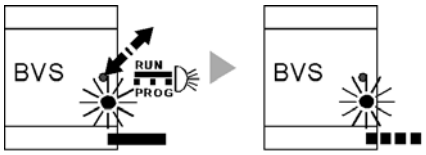
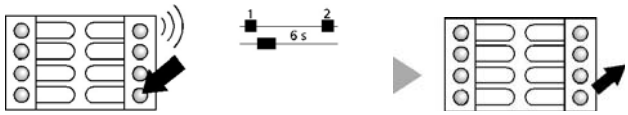
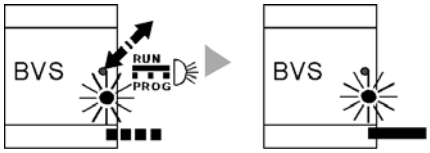


Programming state of a bell button

The front-door stations are supplied un-programmed.
The programming state can be checked as follows:

Testing		
 press briefly	Noprog tone	bell button un-programmed
	ring tone	bell button programmed

Before a pre-programmed bell button can be re-programmed, the programming must be deleted.

Deleting the programming		
1  Press briefly — LED flashes		programming mode <u>of system</u> switched on
2  Press until — deletion tone sounds[1], — release		bell button deleted
3  Press briefly — LED flashes no more		programming mode <u>of system</u> switched off

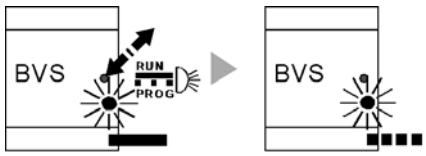
1) If Progsperr ton sounds the programming block is active. It can be removed by the service device TCSK-01 only.

Programming a bell button

Connect the in-house station to the TCS:BUS.
Use one of these two methods.

Method 1: ***In-house station not accessible***

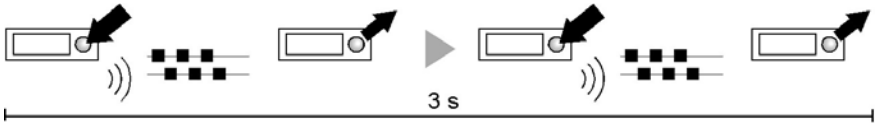
1 LED illuminates



programming mode of system switched on

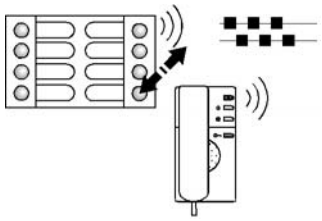
Press briefly LED flashes

2



Floor-switch button within 3 sec:
press 1 sec, until bell rings - release - press 1 sec until bell rings - release.

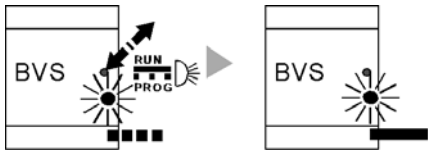
3



bell button programmed

Press briefly ring tone sounds at front-door and in-house station[1)]

4



programming mode of system switched off

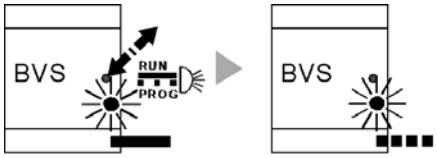
Press briefly LED illuminates

Programming the other bell buttons:

- Step **1**
- repeat steps **2** and **3** each time
- complete the programming of all buttons with step **4**

Method 2: ***In-house station accessible***

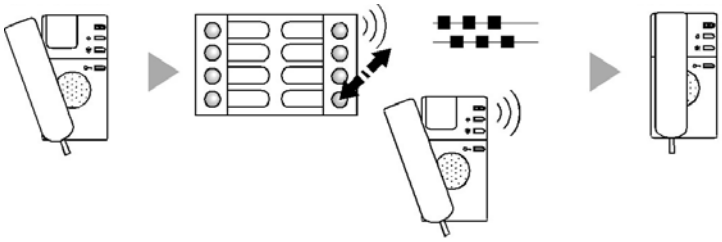
1 LED illuminates



Press briefly — LED flashes

programming mode of system switched on

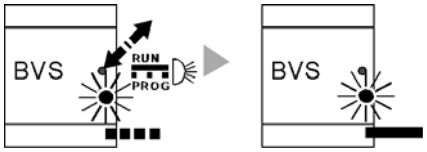
2



Lift handset [2] at in-house station — press briefly, ring tone sounds at front-door and in-house station[1]. — replace handset at in-house station

bell button programmed

3



Press briefly — LED illuminates

programming mode of system switched off

Programming the other bell buttons:

- Step **1**
- repeat step **2** each time for additional bell buttons where necessary
- complete the programming of all buttons with step **3**

2) In-house stations without handset: to establish a voice communication press the speak button (resp. switch button speak / listen).

Programming an already programmed bell button

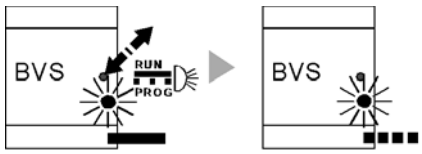
Basic principle

A bell button can be linked to two serial numbers (of two in-house stations). It is then possible to have two different in-house stations ring at the same time.

Connect the in-house stations to the TCS:BUS.
Use one of these two methods.

Method 1*: *In-house station not accessible

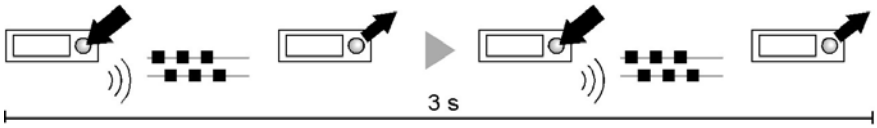
1 LED illuminates



Press briefly — LED flashes

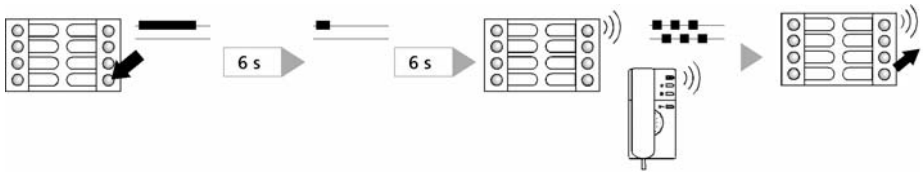
programming mode of system switched on

2



Floor-switch button within 3 sec:
press 1 sec, until bell rings - release - press 1 sec until bell rings - release.

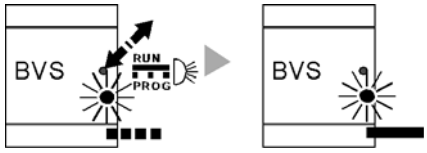
3



Press until Prog2 tone sounds[1]... — ... and Noprog tone sounds — ... and ring tone sounds at front-door and in-house station. — release

bell button programmed

4



Press briefly — LED illuminates

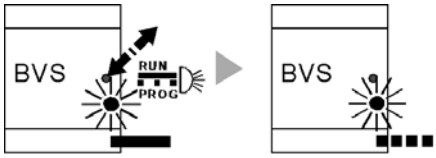
programming mode of system switched off

Programming the other already programmed bell buttons

- Step **1**
- repeat steps **2** and **3** each time
- complete the programming of all buttons with step **4**

Method 2*: *In-house station accessible

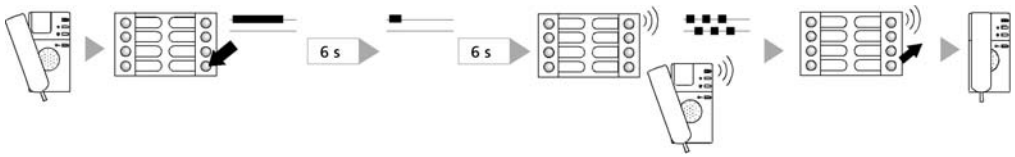
1 LED illuminates



Press briefly — LED flashes

programming mode of system switched on

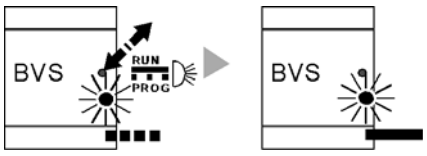
2



Lift handset [2] at the in-house station. — Press until Prog2 tone sounds[1] … — ...and Noprog tone sounds — ... and ring tone sounds at front-door and in-house station. — release — replace handset at in-house station.

bell button programmed

3



press briefly — LED illuminates

programming mode of system switched off

Programming the other already programmed bell buttons

- Step **1**
- repeat step **2** each time for additional bell buttons where necessary
- complete the programming of all buttons with step **3**

Note

Repeated programming of an already programmed bell button always only changes the second serial number. If you want to change the first programmed serial number, you have to delete both serial numbers and then re-program both serial numbers.

Repair

Replacing the EEPROM memory

All programmed data, like serial numbers and parameters, are stored in the EEPROM. If the front-door station requires replacement, the EEPROM board can be removed from the programmed front-door station and inserted into the new front-door station of identical design.

- Open the case.
- Pull the small PCB off the electronic board.
- Plug the EEPROM board onto the pins in the new un-programmed front-door station. Take care that all four poles of the plug are inserted into the jack of the small PCB and that the component side is visible.
- After replacement all programming is available again.

Cleaning

!	Avoid water entering the device! Do not use any aggressive or abrasive cleaning agents!

Clean the device using a dry or slightly moist cloth.
More persistent dirt can be removed using a mild household cleaner.

Service

Contact your local sales representative or

www.tcs-germany.com