WE OPEN UP
NEW WORLDS >

2
WIRE
VIDEO

2-WIRE VIDEO

PLANNING MADE EASY

WWW.TCSAG.DE

CONTENTS

TECHNOLOGY

2-wire video:BUS technology is an easy-to-install door communication system.
It is based on the tried-and-tested TCS:BUS and uses its protocol structure.

The familiar basic audio functions of call and talk, plus door release, light switching and various control functions, are supplemented by the transmission of the modulated video signal to system lines av and bv.

INSTALLATION BENEFITS

> Quick and easy
> Conversion of old electric bell systems and of audio door communication systems to video door communication systems
> Minimum wiring effort
> Protocol compatibility between 2-wire video and TCS:BUS enables easy configuration with the familiar configo™ configuration software

CONVERTING A TCS:BUS AUDIO SYSTEM

A TCS:BUS audio system can be converted to 2-wire video:BUS[1] technology under the following conditions:

> The existing cabling must be suitable for use with 2-wire video:BUS. Further information on this can be found under *Connecting cables* (page 5).
> Cable lengths from the power supply unit to the last indoor station may not exceed 100 m for cables with a diameter of 0.6 mm or 200 m for cables with a diameter of 0.8 mm. Further information on this can be found under *Loop resistance* (page 8).
> Use of existing TCS:BUS audio indoor stations with the help of filter board FVW3040-0000.
> Replacement of the control and power supply unit by the NVV1000-0400.
> Video front-door stations in 6-wire:BUS technology using the 2-wire video:BUS[1] adapter AS[2] FVW3030-0600

CABLES

CABLE ROUTING

The cable routing is determined by structural conditions and is only limited by its length.
We recommend routing the 2-wire video:BUS[1] from device to device and connecting it to the connection terminals of the respective devices. In order to satisfy the general safety regulations for telecommunication systems according to VDE 0800 and to avoid interference through the cables, mains and protective extra low voltages (2-wire video:BUS) must be routed separately. A distance of 10 cm must be maintained during installation. A separator must be used with joint cable routing in installation ducts.

VORSICHT 	**Malfunctions with strong magnetic fields.** No other devices with strong magnetic fields (e.g. transformers) may be installed in the immediate vicinity of the power supply and auxiliary devices. Malfunctions can be triggered by induced voltage peaks.

CABLE NETWORK

Existing cables can be used as TCS:BUS® cables.

	**Requirements for existing cables:** > 2-wire cable, min. Ø 0.6 mm > Recommended or comparable cable types should be available > Avoid junctions between different cable types

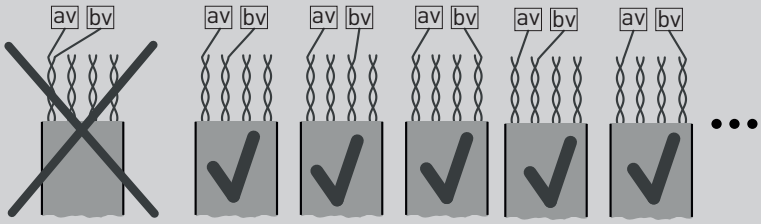
[1] 2-wire video:BUS
[2] Front-door station

CONNECTING CABLES

The following cable types may be used as cable material:

> 2-wire installation cables, not twisted
> Multiwire installation cables, e.g. J-Y(ST)Y)
> CAT5E or CAT7 data cables
> Acceptable cross section (diameter): 0.08 ... 0.82 mm² (Ø 0.32 mm ... 1.0 mm)
> Maximum number of wires per terminal contact: 2 x 0.8 mm | 3 x 0.6 mm
> Maximum loop resistance: 15 ohms
> Signal lines av and bv are polarity-free.

Signal lines **av** and **bv** must be connected to wires from **different wire pairs** to prevent physical image interference.



Only use connecting cables made of copper and with the same diameter within one terminal contact.

GENERAL CONNECTIONS

Unacceptable connections:

> Connection of a floor push-button between av and E1
> Connection via stub lines **without** video distributor FVY3200-0600
> 4 x star cabling from FVY3200-0600 at an output
> Star cabling from the indoor station
> Wiring in sub-distribution without video distributor FVY3200-0600
> **Twisted** connections (to appliance terminals, to auxiliary terminals in flush-mount sockets, etc.)

Acceptable connections:

> Connect further wires using auxiliary terminals (distance of the auxiliary terminal from the appliance terminal: **max. ≤ 5 cm**)
> Loopthroughs from indoor station to indoor station are permitted (up to 8 indoor stations allowed)

[1] 2-wire video:BUS

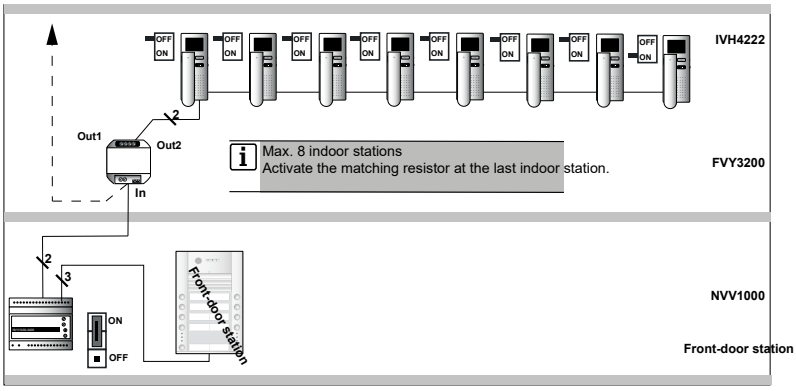
WIRING

On the 2-wire video:BUS[1] wire pair av and bv are provided for voice transmission, switching and messaging protocols, voltage supply and video transmission. The Pv wire (optional) acts as an additional voltage supply.

POSSIBLE WIRING VARIANTS

Strand cabling: max. 8 indoor stations at FVY3200 OUT (stub line)

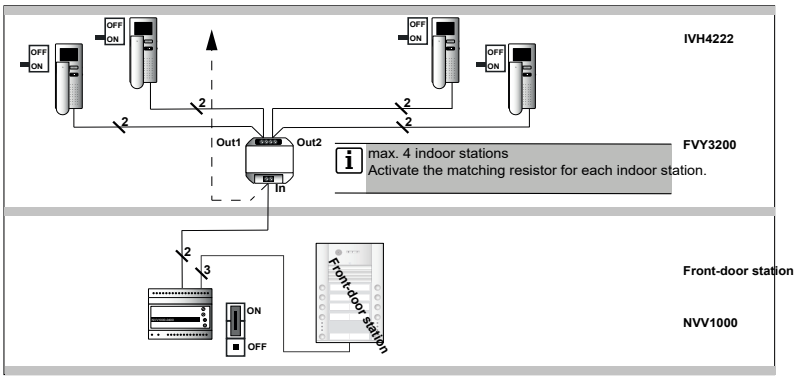
> Up to 8 indoor stations in strand cabling can be connected to an FVY3200 OUT.
> Please ensure that the matching resistor is only activated at the last indoor station.



> Please ensure that a matching resistor is placed on the main strand, for example via additional video indoor stations, a video distributor with an activated matching resistor or by installing the 2-wire video:BUS matching resistor (0038794).

Star cabling: max. 2 indoor stations at FVY3200 OUT

> Up to 2 indoor stations using star-shaped cabling can be connected to an FVY3200 OUT.
> Please ensure that the matching resistor is activated at each indoor station.

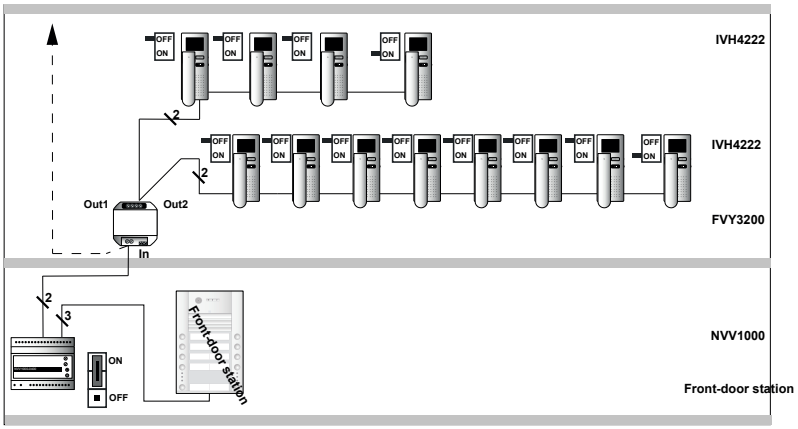


> A maximum of 2 indoor stations are permitted at an FVY3200-0600 OUT.
> In star-shaped installation the matching resistor must be activated or inserted at each indoor station.

[1] 2-wire video:BUS

Simultaneous strand and star cabling at an FVY3200-0600 OUT

> Up to 2 strands with 1 to 8 indoor stations each can be connected to an FVY3200 OUT.



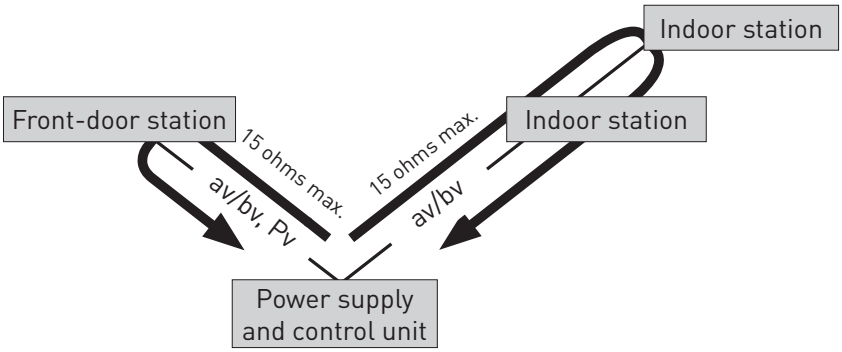
CONNECTION FOR VIDEO DISTRIBUTOR FVY3200-0600

The FVY3200-0600 replaces the previous FVY2200-0600 device.
As the external wiring differs, both devices must **NOT** be combined on one system.

> Each stub line or each output must be connected at the last respective indoor station via the matching resistor. If no matching resistor is set, there may be image interference at the video indoor stations.
> One video distributor output is required per junction (stub line) in the building.
> A maximum of 1 parallel indoor station is possible per installed indoor station.
> Max. 24 indoor stations per system possible.
> Max. 8 indoor stations looped through at the output.

LOOP RESISTANCE

The loop resistance is largely determined by the type of material used and the cable diameter. It is length-dependent and increases linearly to the cable length. Too high a line resistance means that 2-wire video:BUS[1] devices cannot reliably communicate with one another.



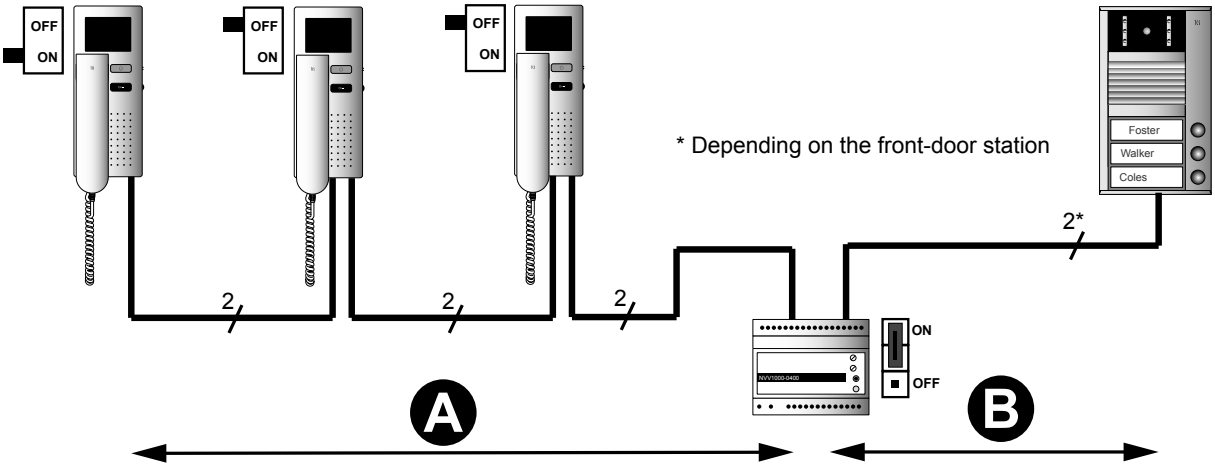
During installation, please ensure
that the loop resistance does not exceed 15 ohms!

[1] 2-wire video:BUS

CABLE LENGTHS

> The maximum distance from the 2-wire video:BUS power supply to the front-door station farthest away or to the indoor station is 100 m (with a 0.6-mm wire diameter).

> The maximum distance from the 2-wire video:BUS power supply to the front-door station farthest away or to the indoor station is 200 m (with a 0.8-mm wire diameter).



Cable type (cable diameter)	A	B
0.6 mm	100 m	100 m
0.8 mm	200 m	200 m

MAXIMUM NUMBER OF IVH4222-0140 AND IVW5211-0145

When using the power supply and control unit	Max. number of video indoor stations	
	IVH4222-0140	IVW5211-0145
NVV1000-0400	24	24

MAXIMUM NUMBER OF 2-WIRE VIDEO FRONT-DOOR STATIONS

In full 2-wire video:BUS[1] systems **a** 2-wire video:BUS front-door station (AVC120x0) can be operated on a 2-wire video:BUS [1] power supply unit (NVV1000-0400).

MAXIMUM NUMBER OF 6-WIRE VIDEO FRONT-DOOR STATIONS (COMBINED SYSTEM)

Up to **two** standard TCS:BUS video front-door stations can be operated in 6-wire technology on the 2-wire video:-BUS[1] power supply unit (NVV1000-0400) via the 2-wire video:BUS adapter[1] AS[2] (FVW3030-0600; also see FVW3030-0600 product information).

An auxiliary device at the TCS:BUS end for supply of P, e.g. NGV1011-0400 or VBVS05-SG, and an FVU1210-0600 2-way video switch are required.

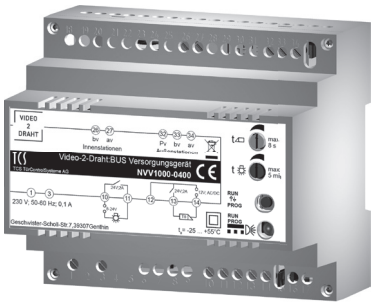
[1] 2-wire video:BUS
[2] Front-door station

DEVICES AND EXTENDED FUNCTIONS FOR THE 2-WIRE VIDEO:BUS

POWER SUPPLY

NVV1000-0400

Power supply and control unit for video 2-wire:BUS systems with up to 24 indoor stations



The NVV1000-0400 is a video 2-wire BUS power supply and control unit for the centralised supply and control of polarity-free TCS video 2-wire:BUS systems on the non-twisted strand. The loop resistance may be 15 ohms maximum.

- Programming push button for switching between system operating mode and programming mode
- Programming or operating mode indicated by a yellow LED
- Potential-free switching output for light switching
- Light switch time manually adjustable from 0.8 s to 5 min
- Door release time manually adjustable from 0.8 s to 8 s
- av and bv are polarity-free
- 6 SU for the DIN rail according to DIN EN 60175

Technical data

Supply voltage	Integrated power supply unit 100–240 V AC ± 10%, 50–60 Hz
Power consumption	max. 30 W
Standby power	1 W
Output current av terminal or Pv terminal	I = 300 mA
Maximum output current	I(Pvmax) = 600 mA (temporary)
Output voltage in idle condition	U(av/bv) = 32 V
Output voltage for speech	U(av/bv) = 28.8 V
Output voltage	U(Pv) = 33 V
Power output	max. 28 W
Voltage to release doors in idle condition	U(Dr) = 12 V ± 2 V AC (load-dependent), max. 1 A U(Dr) = 12 V ± 2 V DC (load-dependent), max. 0.5 A
External mains fuse	min. 2 A (recommended)
Acceptable ambient temperature	0 ...+40°C
Degree of protection	IP20
Dimensions (in mm)	L 105 x W 90 x H 70
Housing	DIN rail case 6 SU for DIN rail DIN EN 60715
Weight	240 g
Protection category	II

FRONT-DOOR STATION

AVC120x0-0010

For wall mounting with up to 3 bell buttons

The ASX1300x-0010 is a video front-door station in a compact design that is suitable for outdoor use.

- Video front-door stations for wall mounting for up to 3 flats
- Colour camera CCD II sensor 700 TVL
- Focal length f = 3.6 (F2.0)
- Photo sensitivity 0.2 Lux
- Diagonal detection angle: 90°
- IR illumination for near-field illumination in the dark (night-time operation)
- Continuous camera operation possible
- win:clip™ principle for opening the front-door station
- Metal housing made from robust aluminium profiles
- Bell buttons made from metal with maintenance-free contacts
- 2 indoor stations can be assigned to each bell button
- Durable, energy-saving LED-illuminated name plate with a light sensor
- Shatter-proof name plate glass
- Acknowledgement tone when pressing the bell button
- Length of call (factory setting): 56 seconds; can be adjusted with the service device or configo™
- Unprogrammed bell button can be used to switch lights
- Volume and microphone sensitivity can be adjusted manually
- Door standby time: 56 seconds (factory setting)
- Voice connection during door standby time
- Accessories: mounting plates for neat wall mounting on uneven surfaces
- Weather protection roof

Technical data

Supply voltage	+32 V DC ± 2 V (power supply and control unit)	
Input current in standby	I(av) = 65 mA (in 2-wire operation)	
	I(av) = 0.54 mA, I(Pv) = 60 mA (in 3-wire operation)	
Maximum input current	max. Iav/IPv = 110 mA	
Camera	colour camera	1/ 3" HAD CCD II sensor 700 TVL
	photo sensitivity	0.2 Lux
	focal length f	3.6
	diagonal detection angle	90°
Degree of protection	IP31	
Acceptable ambient temperature	-20°C ... +50°C	
Housing	aluminium, anodised	
Name plate glass	acrylic glass	
Dimensions (in mm)	H 175 x W 104 x D 16	
Weight	380 g	

Item summary

Designation	H x W x D	Article number
Video front-door station with 1 button	H 175 x W 104 x D 16 mm	AVC12010-0010
Video front-door station with 2 buttons	H 175 x W 104 x D 16 mm	AVC12020-0010
Video front-door station with 3 buttons	H 175 x W 104 x D 16 mm	AVC12030-0010

IVH SERIES VIDEO INDOOR STATION

IVH4222-0140

For wall mounting with standard functions

The IVH4222-0140 is a video indoor station for duplex communication with a handset suitable for wall mounting above a flush-mount socket.

- Video indoor station for the 2-wire video:BUS for duplex communication with a handset
- 8.9 cm (3.5″) colour display with QVGA resolution
- Contrast, brightness and colour can be set to 8 different levels with the configo™ configuration software
- Contrast and brightness can be set manually to 8 different levels
- Large blue door release button
- Function key for light switch function, control function or image activation (can be configured with the configo™ configuration software)
- Manual image activation and switching of video sources via the function key
- Ring tone volume can be adjusted continuously (via a rotary switch)
- Acoustic call distinction: door calls from 2 front-door stations, flat door call (floor bell) and internal call
- 7 ring tones can be selected (via the configo™ configuration software)
- Ring tone mute (via a slide switch)
- Parallel call settable using the TCSK service device or configo™
- Automatic image activation on parallel calls can be activated/deactivated via configo™
- Control centre call possible with control function 8 (with a configured function key)
- Audio privacy function
- Pluggable handset cord
- Lower cover with plugged-in screw terminal can be pre-installed
- Configuration software configo™ can be used for easy system configuration on a PC with automatic detection of the device type and serial number
- Slide switch for activation of the matching resistor
- Tested according to EN 50486 (equipment for use in audio and video door-entry systems)
- Housing made of antistatic and recyclable plastic
- Can be used as a desktop device (mounted on ZIT3222-0030)

Technical data

Operating voltage	+32 V DC ± 2 V (power supply and control unit)
Input current in standby	I(av) = 1.48 mA
Maximum input current	I(av max.) = 93 mA
Video module	TFT colour module
Screen diagonal	8.9 cm (3.5″)
Resolution	320 x 324 pixels, RGB
Degree of protection	IP30
Acceptable ambient temperature	-5°C ... +40°C
Housing	plastic, white
Dimensions (in mm)	H 250 x W 100 x D 50/28 (with/without handset)
Weight	410 g

TASTA SERIES VIDEO INDOOR STATION

IVW5211-0145

For wall mounting with standard functions

The IVW5211-0145 is a video indoor station for hands-free communication suitable for wall mounting above a flush-mount socket.

- Video indoor station for hands-free communication for the 2-wire video:BUS
- Manually controlled push-to-talk communication can be activated
- 8.9 cm (3.5″) display with QVGA resolution
- Contrast, brightness and colour can be set to 8 different levels by a respective sensor key (capacitive)
- Sensor key (capacitive) for image activation or for switching between different cameras
- Automatic image activation on an incoming door call
- Large door release and speech button with an optical display
- Speech button for initiating and ending a voice connection and for switching between talking and listening if push-to-talk communication is activated
- Light switch button (e.g. for switching on the corridor light) with activatable alternate allocation: control function 9 or internal call
- 1 function key (factory setting: control function 8) with activatable alternate allocation: automatic door release, call diversion and internal call settable with the configo™ configuration software
- Call-OFF button for ring tone mute with optical display, can be deactivated by configuration
- Optical display of calls by LED (green) and ambient lighting (configurable)
- Ambient lighting as an orientation light integrated into the sound outlet, call display configurable
- Optical LED display of a busy line when voice connection is established (LED green)
- Ring tones can be adjusted (by the resident) with a choice of 13 different ring tones
- Voice volume and ring tone volume can be adjusted manually: loud or soft
- Acoustic call distinction between 2 front-door stations via the configo™ configuration software
- Flat door (floor door) and internal call
- Parallel calls can be activated via the TCSK service device or configo™ configuration software
- Automatic image activation on parallel calls can be deactivated via configo™
- Automatic call acceptance after an internal call can be configured
- Video privacy function when a door call is made to another indoor station
- Audio privacy function and automatic call cut-off
- Mounting cover with plugged-in screw terminal can be pre-installed
- Optical and acoustic error indication
- Extended functions with FFL2200-0 radio signal unit
- Automatic hands-free communication (call acceptance) after an internal call can be activated/deactivated
- Housing made of plastic (ASA) with a white, high-gloss, UV-resistant surface
- Desktop installation with separate desktop accessory ZIT5000-0030

Technical data

Operating voltage	+32 V DC ± 2 V (power supply and control unit)	
Input current in standby	I(av) = 2.00 mA	ambient lighting on
	I(av) = 1.40 mA	ambient lighting off
Maximum input current	I(av max) = 150 mA	
Video module	TFT colour module	
Screen diagonal	8.9 cm (3.5″)	
Resolution	320 x 324 pixels, RGB	
Degree of protection	IP30	
Acceptable ambient temperature	-5°C ... +40°C	
Housing	ASA plastic, white	
Dimensions (in mm)	H 194 x W 94 x D 21	
Weight	227 g	

EXTENDED FUNCTIONS

FVW3030-0600

2-wire video:BUS adapter AS

The FVW3030-0600 is an adapter for coupling video front-door stations in 6-wire TCS:BUS technology to the 2-wire video:BUS power supply unit NVV1000-0400. The device is suitable for flush-mount installation in a flush-mount socket or for mounting on a DIN rail using the supplied DIN rail clip.

- 2-wire video:BUS supply from the NVV1000-0400 via connection terminals av, bv and Pv
- Can be used for TCS front-door stations in the AVD/AVE, AVU, AMI* and KTU series
- Can be used for TCS audio front-door stations in combination with select video cameras from TCS (FVK3210-0, FVK3220-0, FVK3230-0, FVK3240-0, FVK4224/25-0, FVK2200-0300 and FVK2201-0300)
- Frequency modulation of the video signal (camera inputs V1 and V2) on the 2-wire video:BUS
- Polarity-free av and bv
- Compatible with the TCS:BUS protocol
- Tested according to DIN EN 50486

*Except AMI10105-0710/-0757

When using TCS cameras FVK1202-0, FVK4212-0, FVK4213-0, FVK4214-0 and Carus IRIS CAE200x-015x, additional supply via DC power supply NGV1011-0400 is necessary.

Please only use cameras in the TCS AG range.
TCS AG does not accept any responsibility for the functionality of cameras from other manufacturers.

Technical data

Supply voltage video 2-wire:BUS	I(av) in standby: 2.4 mA
	I(Pv) in standby: 10.3 mA
6-wire output TCS:BUS	a: 25.5 V ± 2 V
	P: 29.0 V ± 2 V
	I (P out): max. 120 mA
	12 V = 12 V DC
	I(12 V): max. 120 mA
Acceptable ambient temperature	-25 ...+55°C
Degree of protection	IP20
Dimensions (in mm)	L 52 x W 52 x H 23
Housing	built-in housing: ABS plastic, blue
Weight	30 g

System examples

	Number of 2-wire video indoor stations	
	IVW5211-0145	IVH4222-0140
With a video front-door station (incl. FVW3030)		
With AVD/AVE14xxx-00xx	24	24
With AVU15xxx-00xx (2 slots)	16	24
With an audio front-door station and separate camera (incl. FVW3030)		
With ASI12000-00xx + FVK4222-0	24	24
With ASI12000-00xx + FVK220x-0	24	24

FVY3200-0600

2-wire video:BUS video distributor (2-way)

> The FVY3200-0600 replaces the previous FVY2200-0600 device.
> As the external wiring differs, both devices must **NOT** be combined on one system.

The FVY3200-0600 is a video distributor that picks up a video signal and distributes it across two outputs. The video distributor is preferably installed in risers in order to connect stub lines on the floor. The device is suitable for flush-mount installation in a flush-mount socket.

- Passive 2-way video distributor for the 2-wire video:BUS
- Use in risers with stub lines/branches
- 1 video input
- 2 video outputs
- Matching resistor can be activated/deactivated by a jumper
- Mounting in a flush-mount box
- Polarity-free

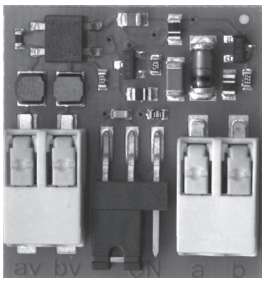
Technical data

Input voltage	32 V DC +2 V/-6 V
Contact resistance in strand/riser	max. 0.1 Ω
Contact resistance per distributor to output (stub line) with an active indoor station (call/talk)	max. 0.3 Ω
Acceptable ambient temperature	-5 ...+40°C
Degree of protection	IP20
Dimensions (in mm)	L 52 x W 52 x H 23
Housing	built-in housing: ABS plastic, blue
Weight	32 g

FVW3040-0000

2-wire video:BUS filter for TCS:BUS indoor stations or extended functions

FVW3040-0000 are filters in 2-wire video:BUS systems used to connect TCS:BUS devices such as ISH3x30 or max. 3 BRE2-EBs. The FVW3040-0000 is suitable for installation in video indoor stations.



- 2-wire video:BUS connection (av, bv)
- Matching resistor for operation of a TCS:BUS audio indoor station on the last video indoor station in the strand
- Includes a connection for the TCS:BUS (a, b)

Technical data

Input voltage	+32 V DC +2 V
Output voltage without load	27 V DC
Output voltage with load	ca. 24 V DC
Output current	I = 70 mA (on device in standby connected to output)
Maximum output current	I(max) = 120 mA (on active device connected to output)
Acceptable ambient temperature	-5 ... +40°C
Dimensions (in mm)	H 27.5 x W 26.5 x D 5
Weight	4 g
Protect against moisture	

0038794

2-wire video:BUS matching resistor

The 2-wire video:BUS matching resistor 0038794 is used to operate 2-wire video:-BUS-compatible TCS:BUS audio indoor stations such as ISW5010 at the end of a 2-wire video:BUS strand. Type of mounting: integrable, secured with adhesive pads.

Technical data

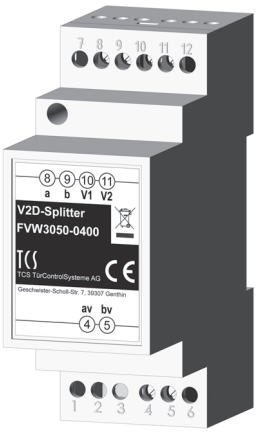
Input voltage	+32 V DC +2 V
Acceptable ambient temperature	-5 ... +40°C
Degree of protection	IP20
Dimensions (in mm)	H 105 x W 16 x D 5
Weight	8 g

FVW3050-0400

2-wire video:BUS to TCS:BUS splitter

The FVW3050-0400 is an adapter for splitting the 2-wire-video:BUS system av and bv to a, b, V1 and V2. It can be used to couple TCS:BUS IP gateways to the 2-wire video TCS:BUS, for example. The FVW3050-0400 is suitable for installation in a control cabinet on TS 35 mounting rails.

> For switching on an IP gateway with its own power supply (e.g. NGV1011-0400 via P and M)



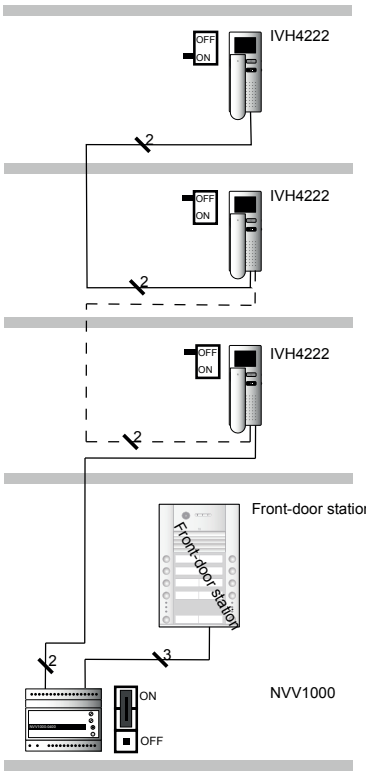
Technical data

Input voltage	+32 V DC +2 V
Acceptable ambient temperature	-5 ... +40°C
Degree of protection	IP20
Dimensions (in mm)	H 90 x W 35 x D 70
Housing	DIN rail case 2 SU

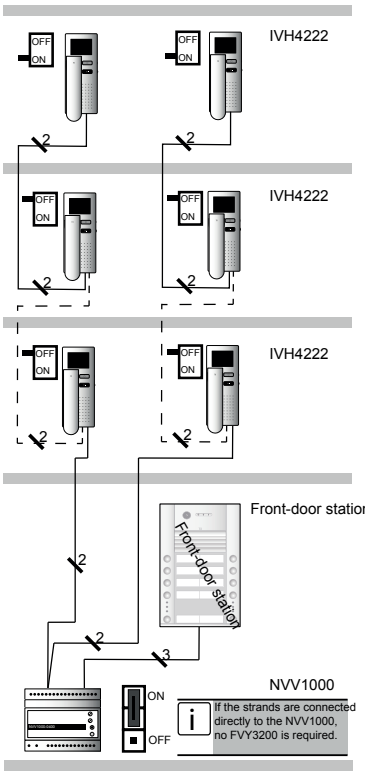
EXAMPLE SYSTEM STRUCTURES

GENERAL PLANS

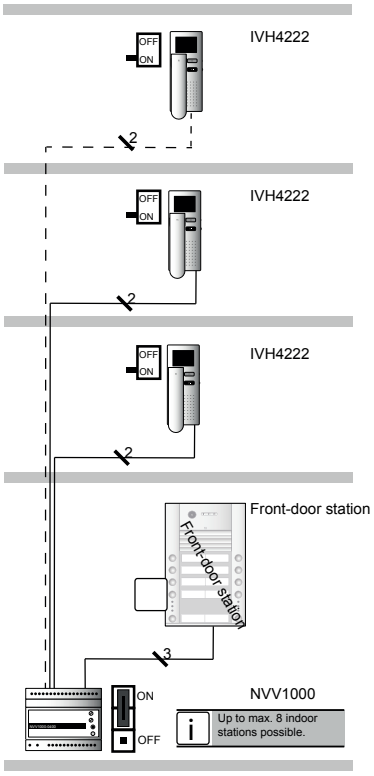
1-strand system:
max. 24 indoor stations possible
(indoor station looped through)



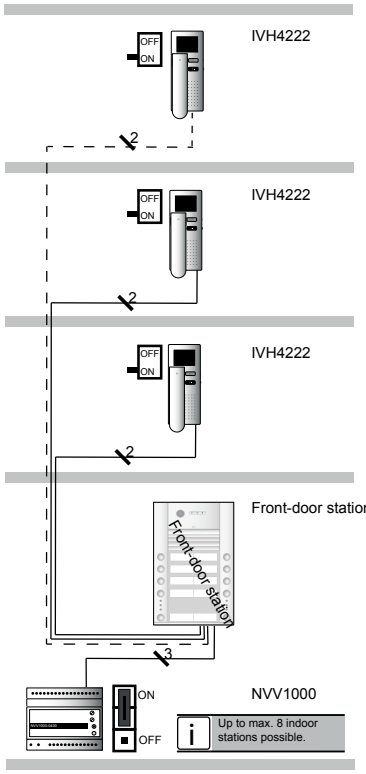
Multiple-strand system
(indoor station looped through)



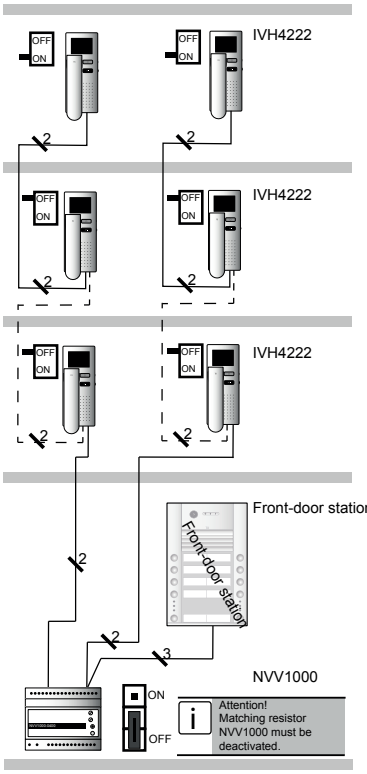
Star cabling from
NVV1000-0400



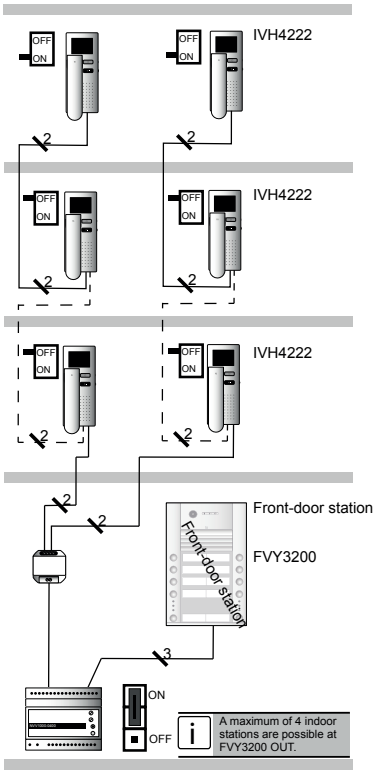
Star cabling from
front-door station



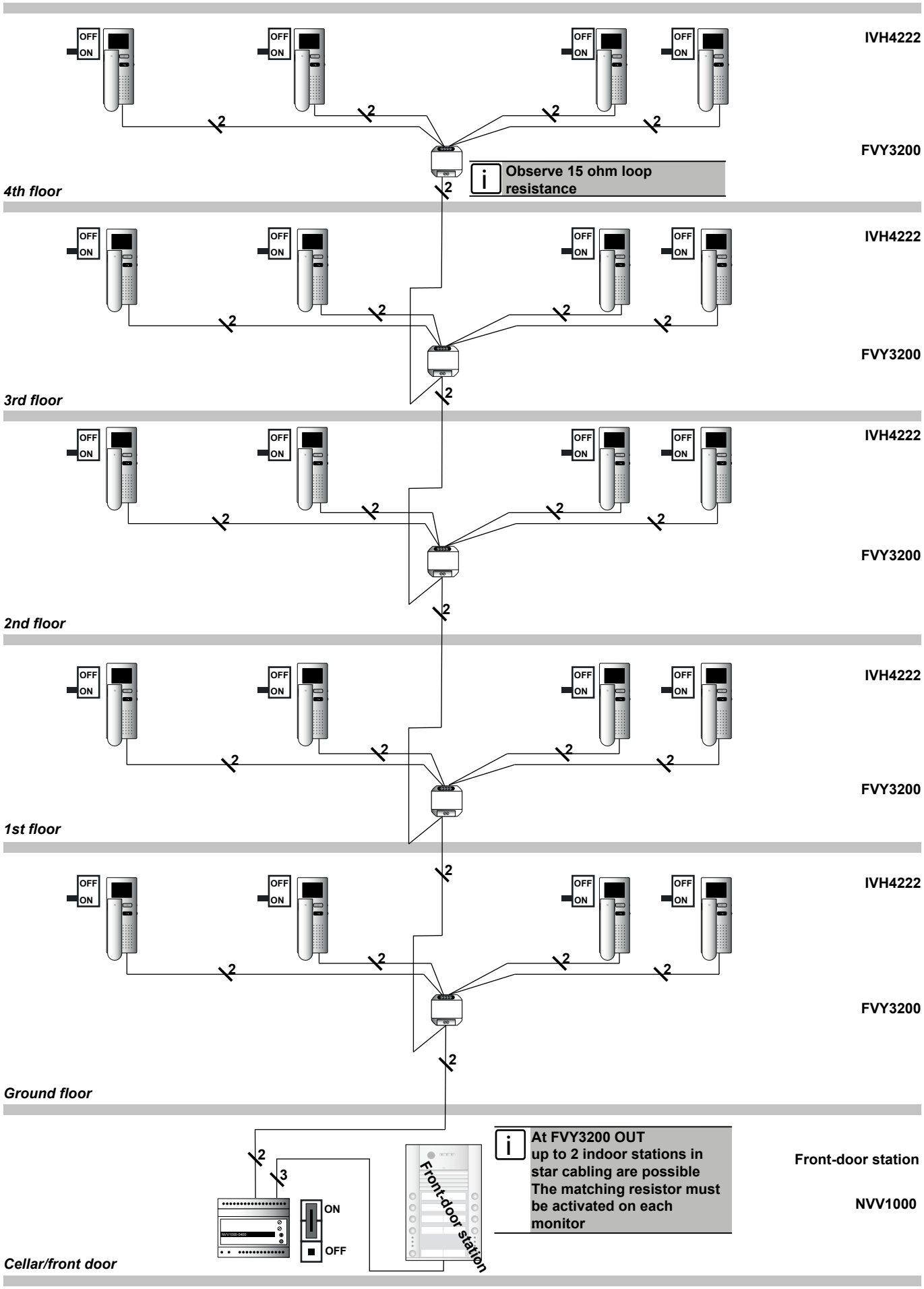
1 strand from connection NVV1000 for indoor stations and max. 1 strand from connection NVV1000 for front-door stations



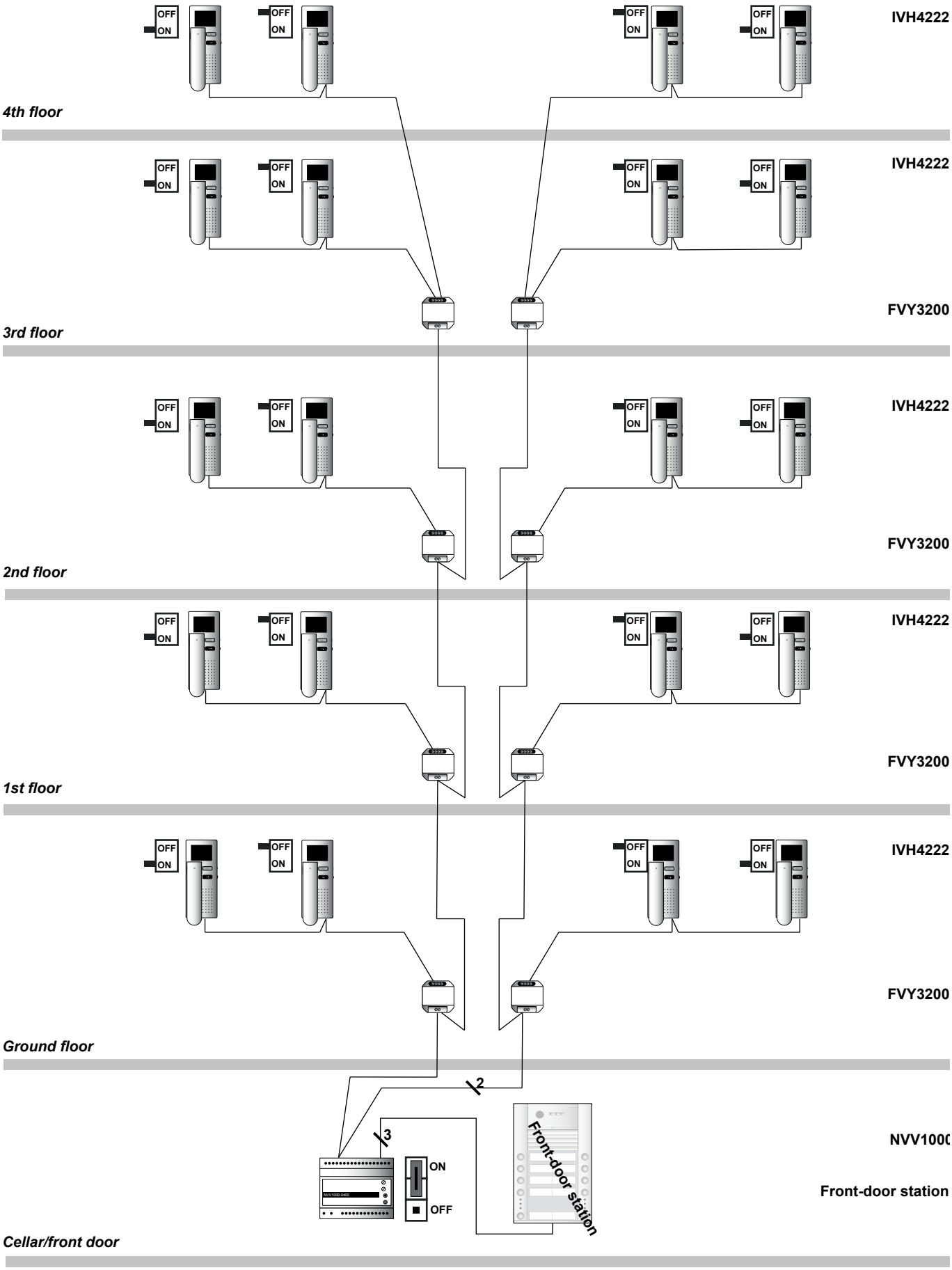
Strand cabling with
video distributor FVY3200-0600



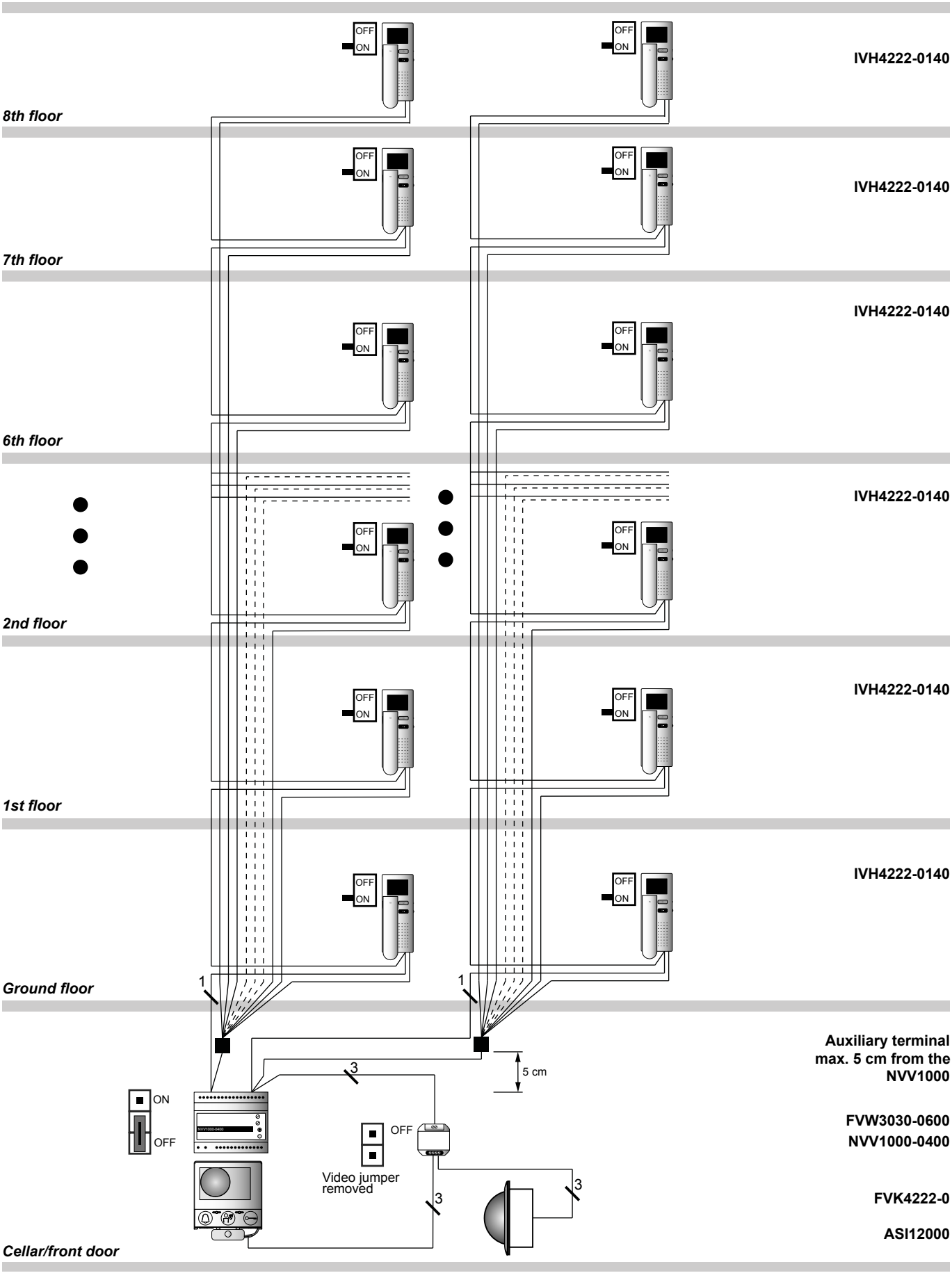
1-strand system with star cabling and video distributor FVY3200-0600



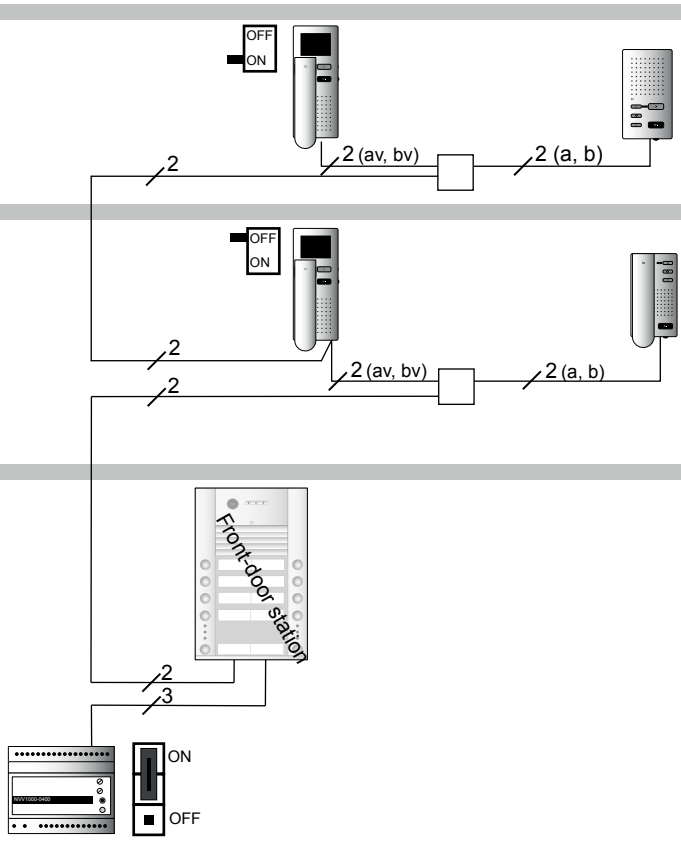
2-strand system with stub line and video distributor FVY3200-0600



1+n wiring from connection NVV1000-0400 for indoor stations and 1+n wiring from connection NVV1000-0400 for front-door stations plus adapter FVW3030-0600 for TCS:BUS front-door stations (example: ASI12000 and VFK4222)



System example: 2-wire video:BUS filter board FVW3040-0000 for connecting TCS:BUS indoor stations ISH3x30 | ISW3x30



ISW3030

IVH4222

FVW3040
Integrate
including a matching resistor
into IVH4222!

ISH3030

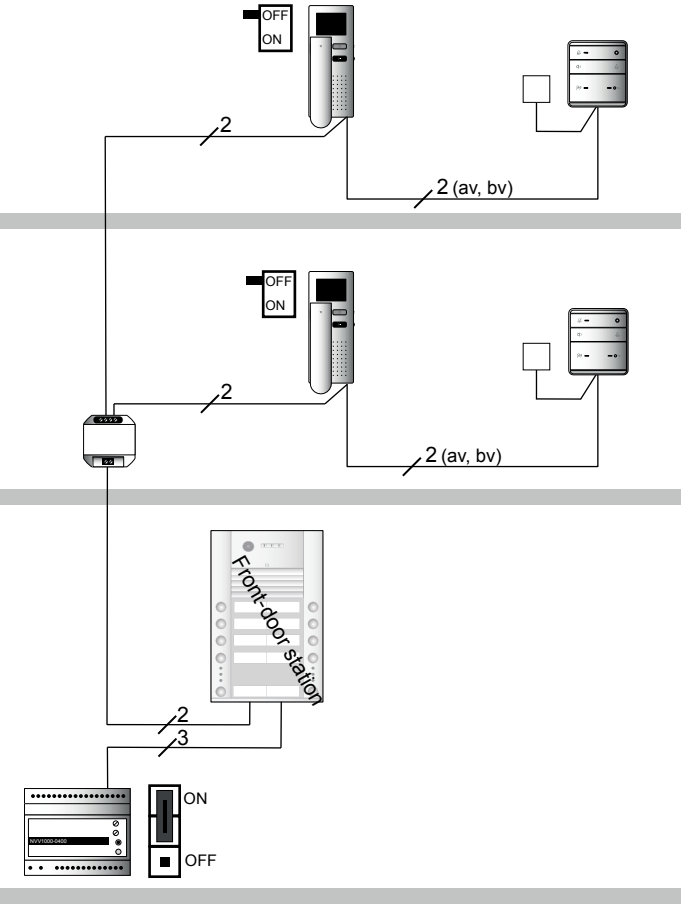
IVH4222

FVW3040
Integrate
including a matching resistor
into IVH4222!

Front-door station

NVV1000

System example: matching resistor 0038749 for connecting TCS:BUS TASTA Audio (ISW5010-0145) indoor stations at the end of the strand



IVH4222

ISW5010

Matching resistor
0038749

IVH4222

ISW5010

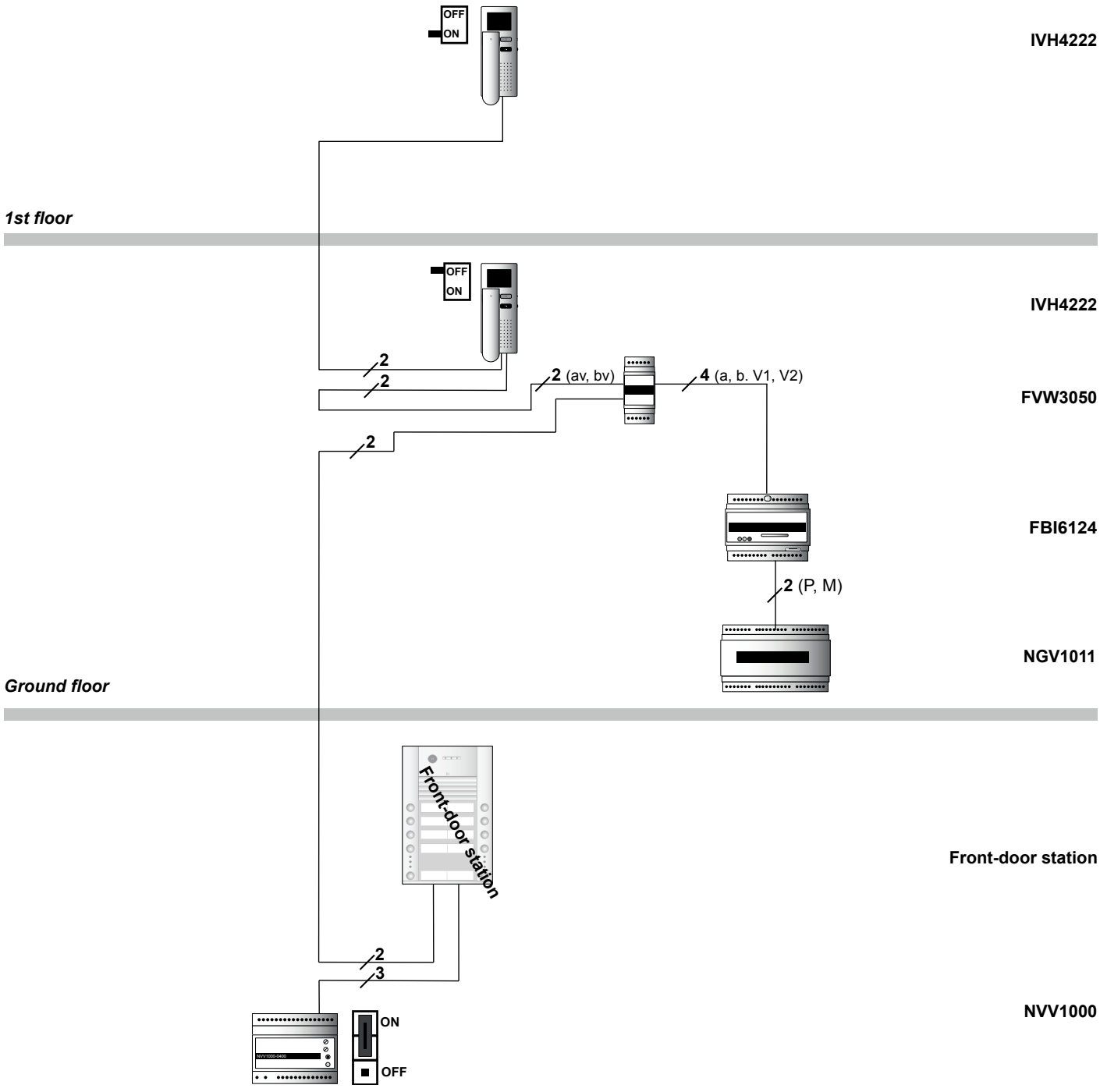
Matching resistor
0038749

FVY3200

Front-door station

NVV1000

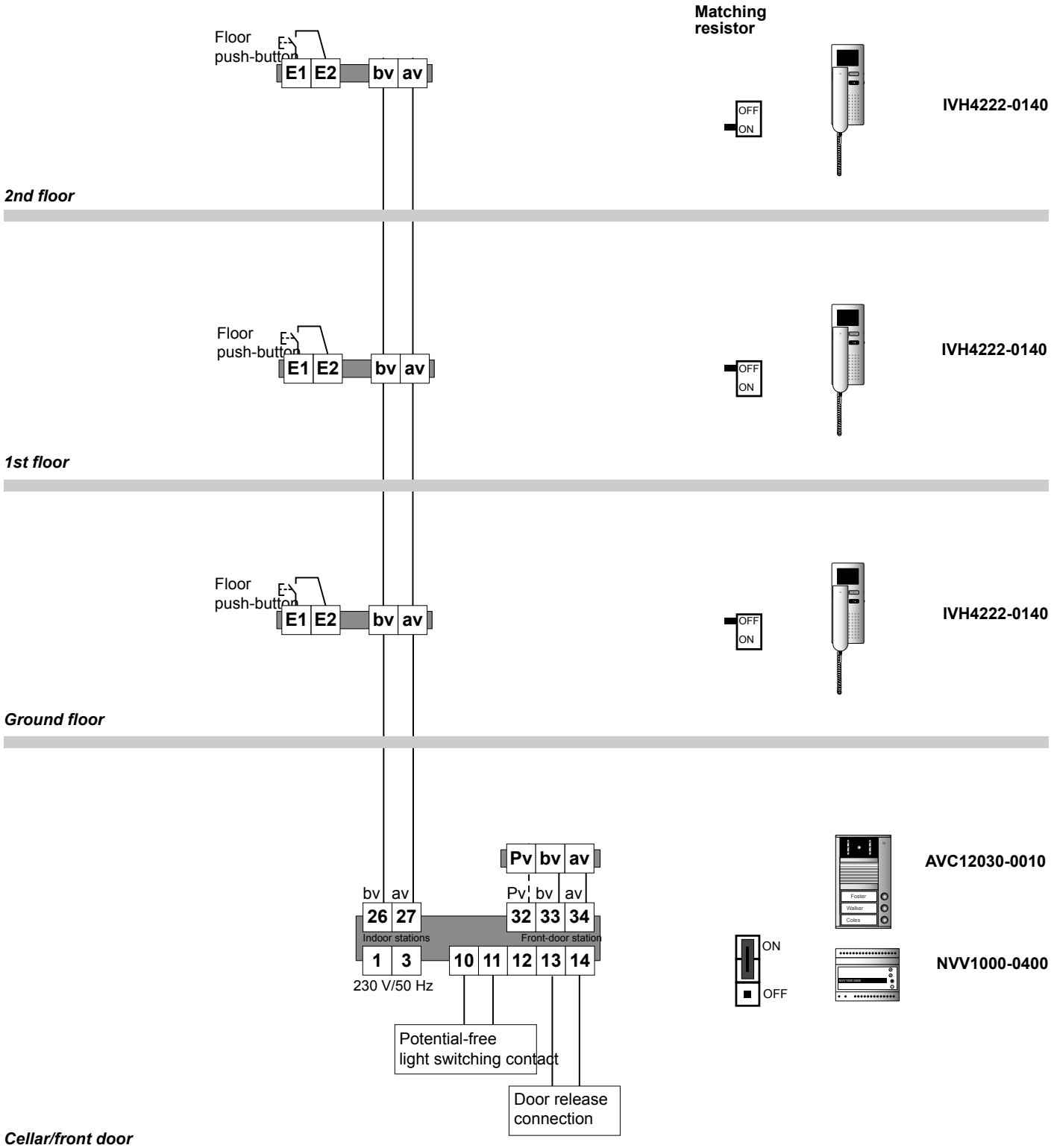
System example: 2-wire video:BUS splitter FVW3050-0400 in TCS:BUS (a, b, V1 and V2) for connecting gateway FBI6123/24



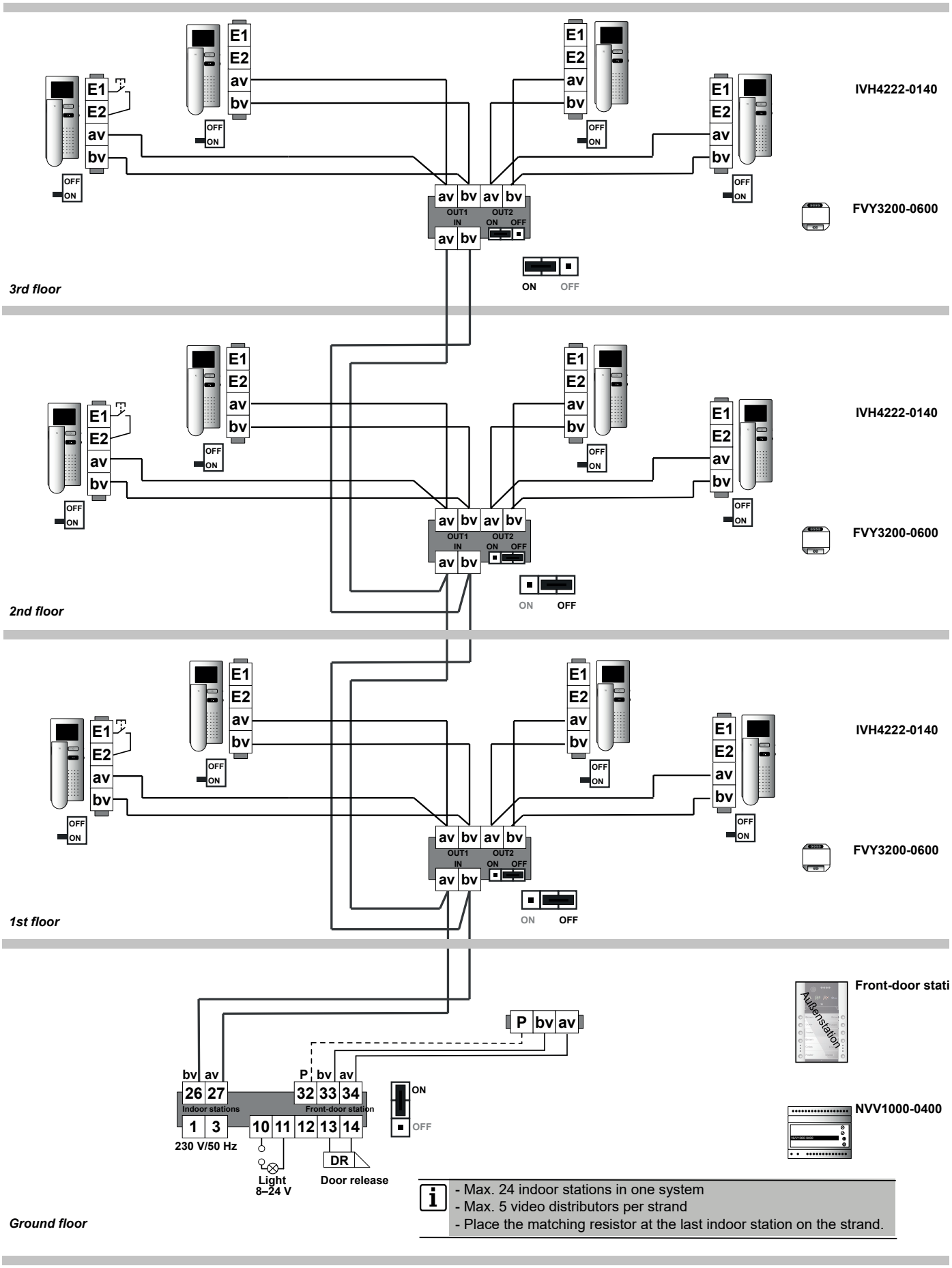
WIRING DIAGRAMS

2
WIRE
VIDEO

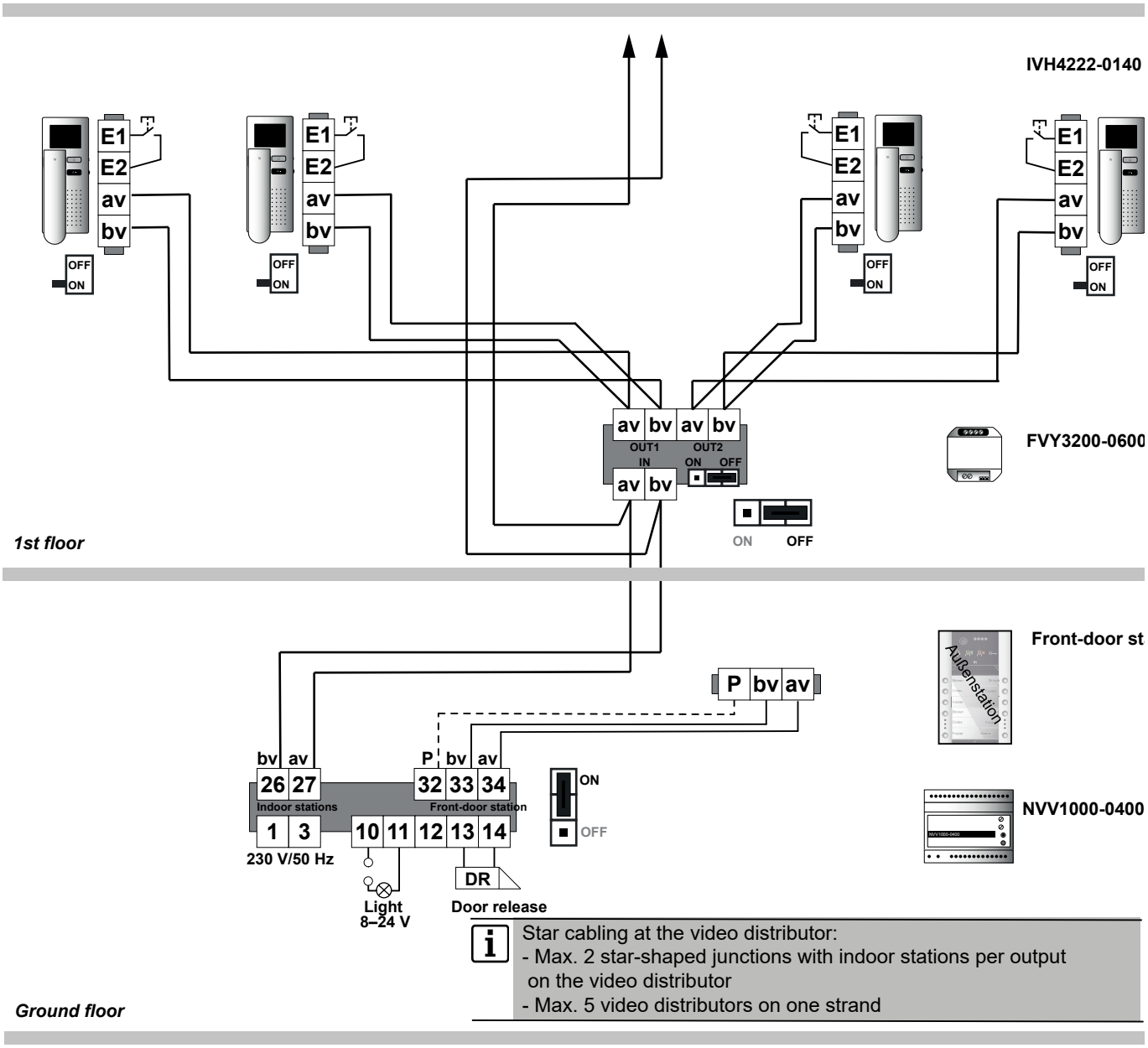
Standardised system for up to 3 flats



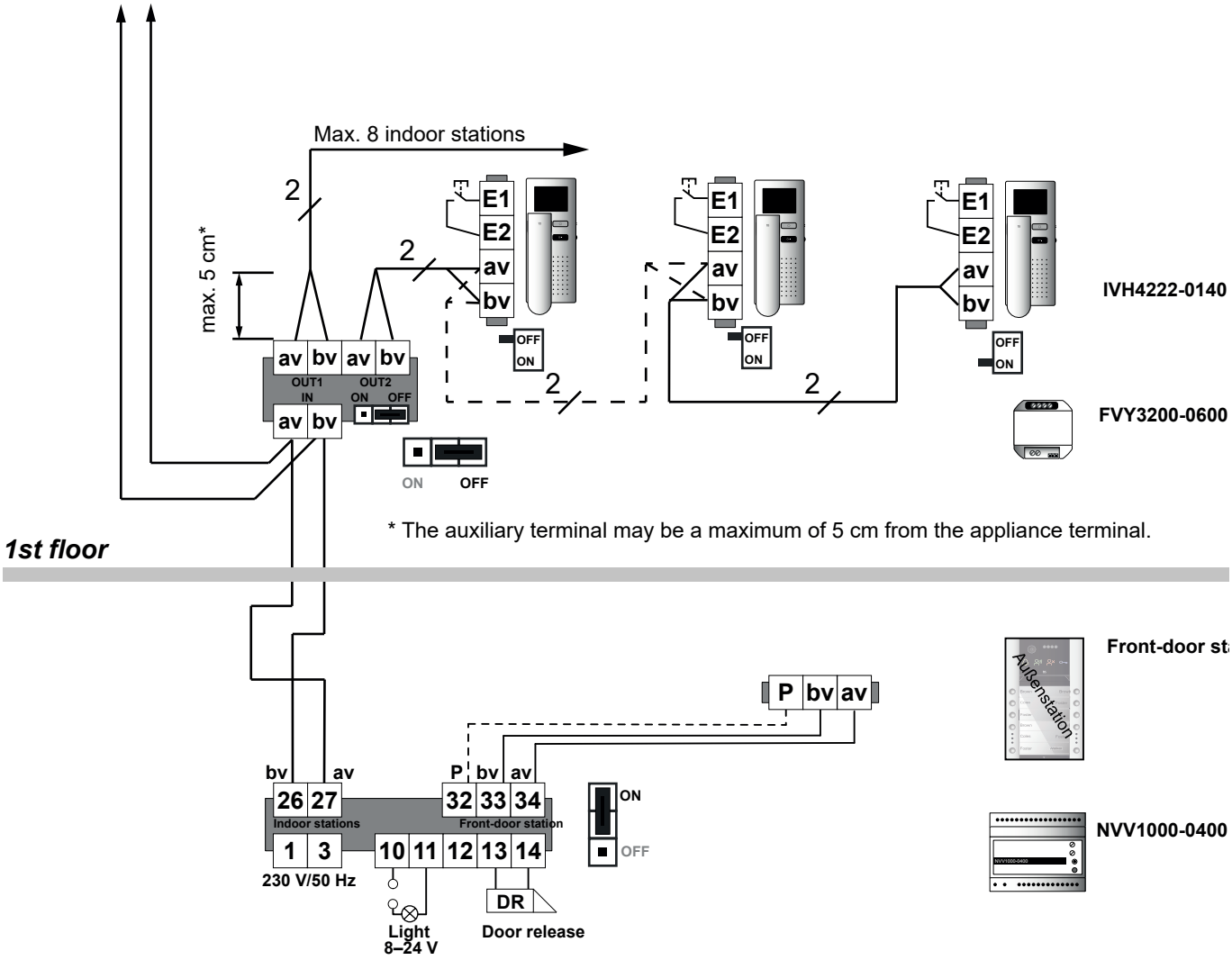
Standardised system with stub lines and video distributor FVY3200



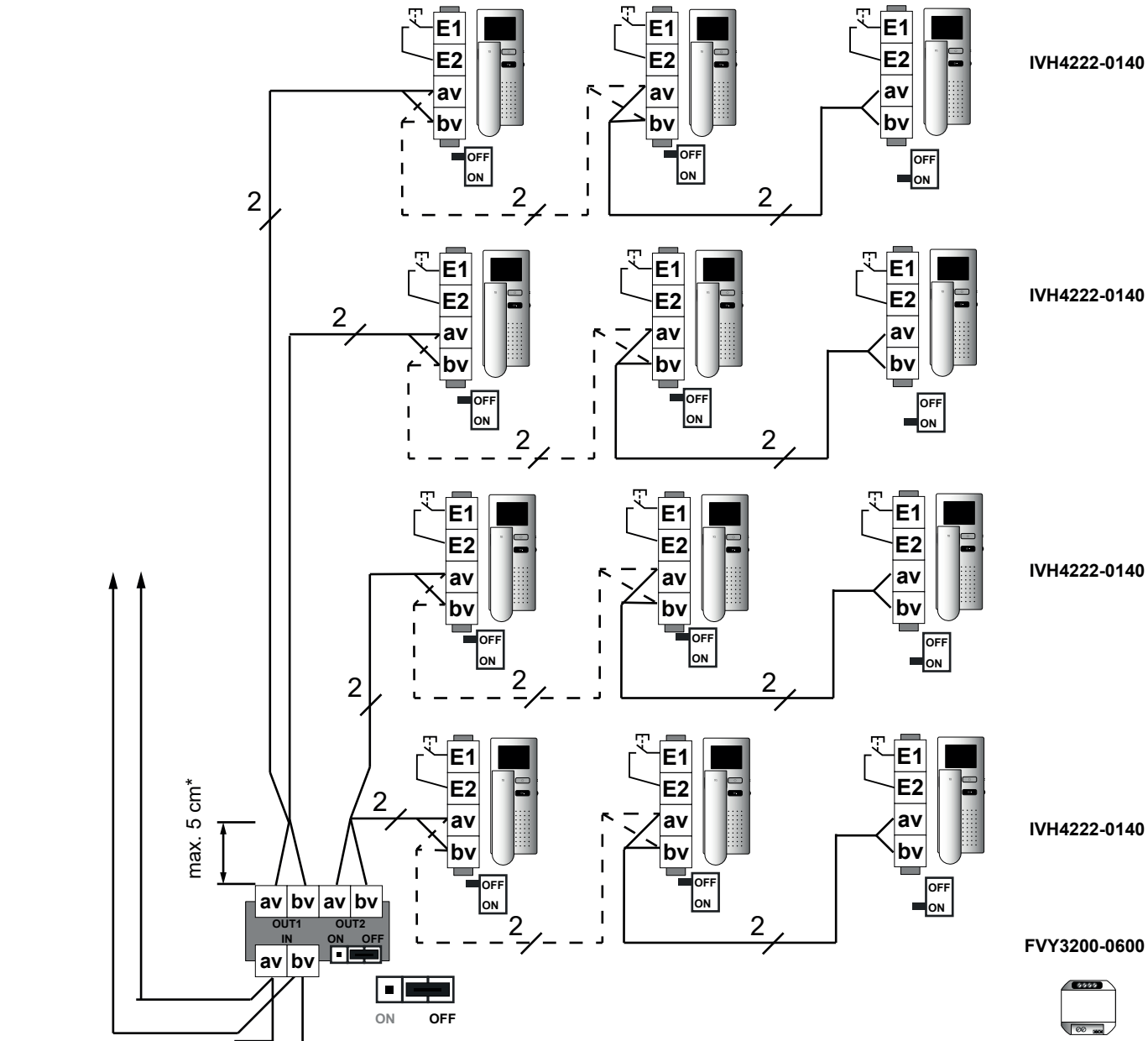
Star cabling with video distributor FVY3200-0600 (max. 2 star-shaped junctions with indoor stations per output)



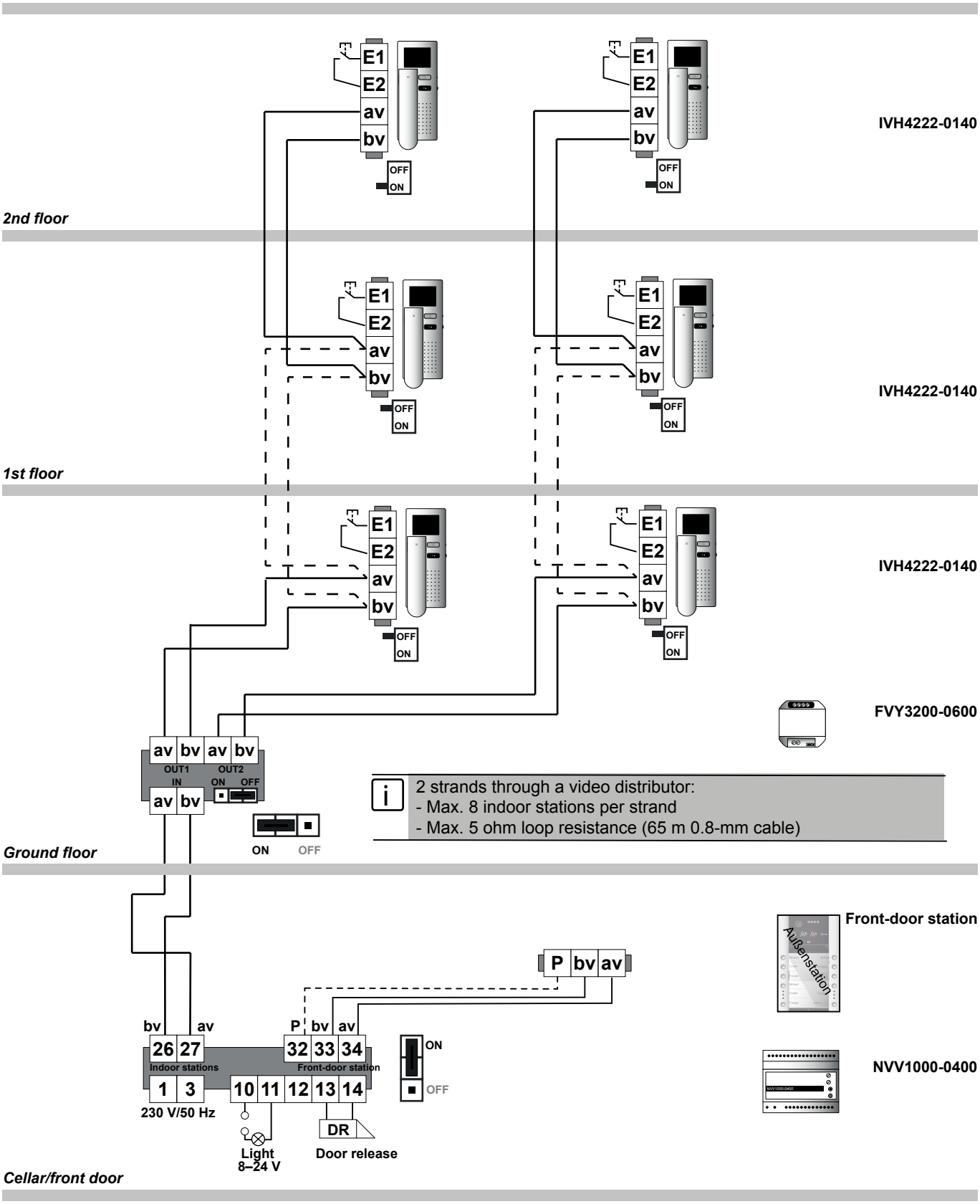
Strand cabling at video distributor FVY3200-0600



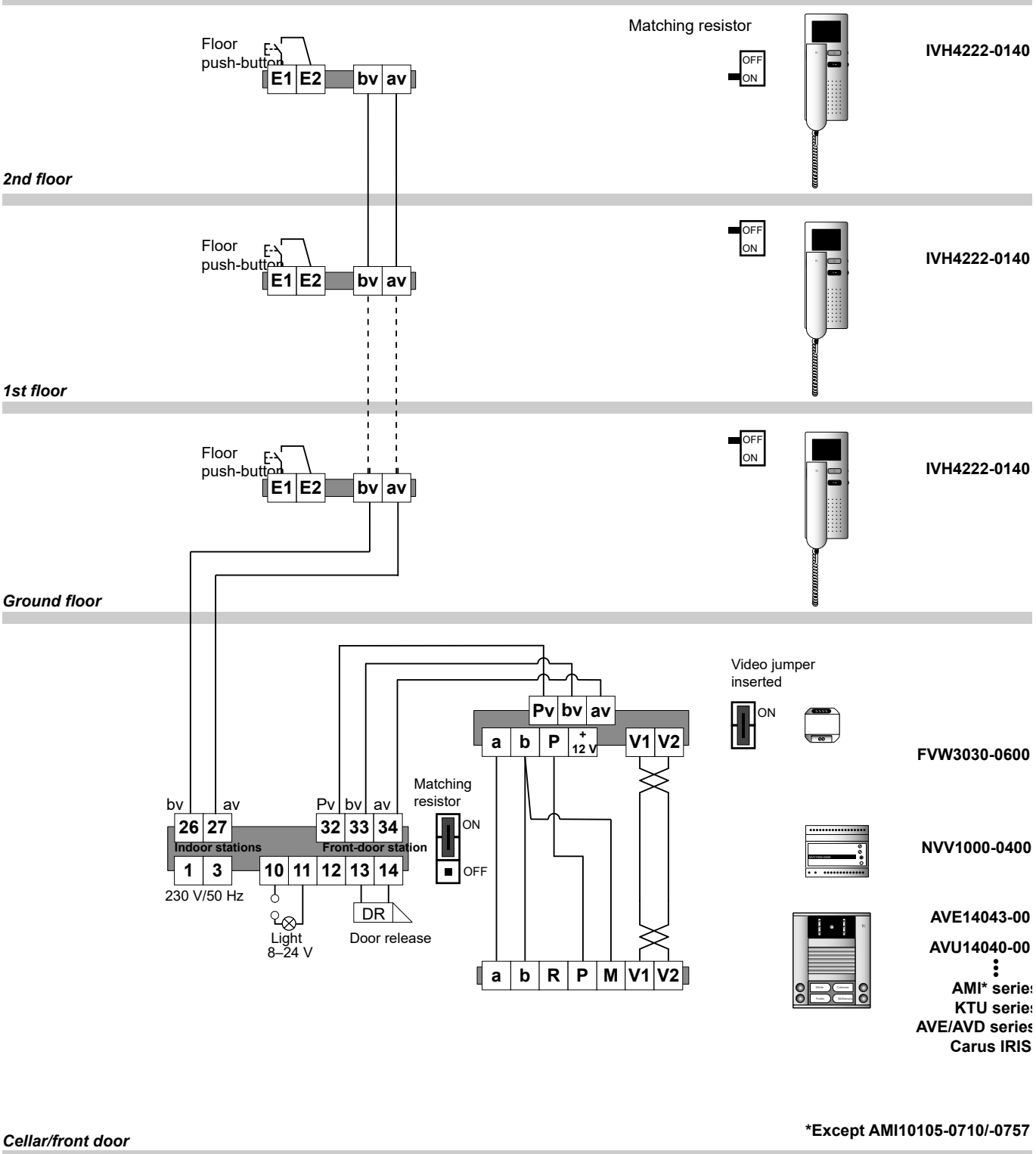
Strand cabling at the distributor: max. 2 strands at one output



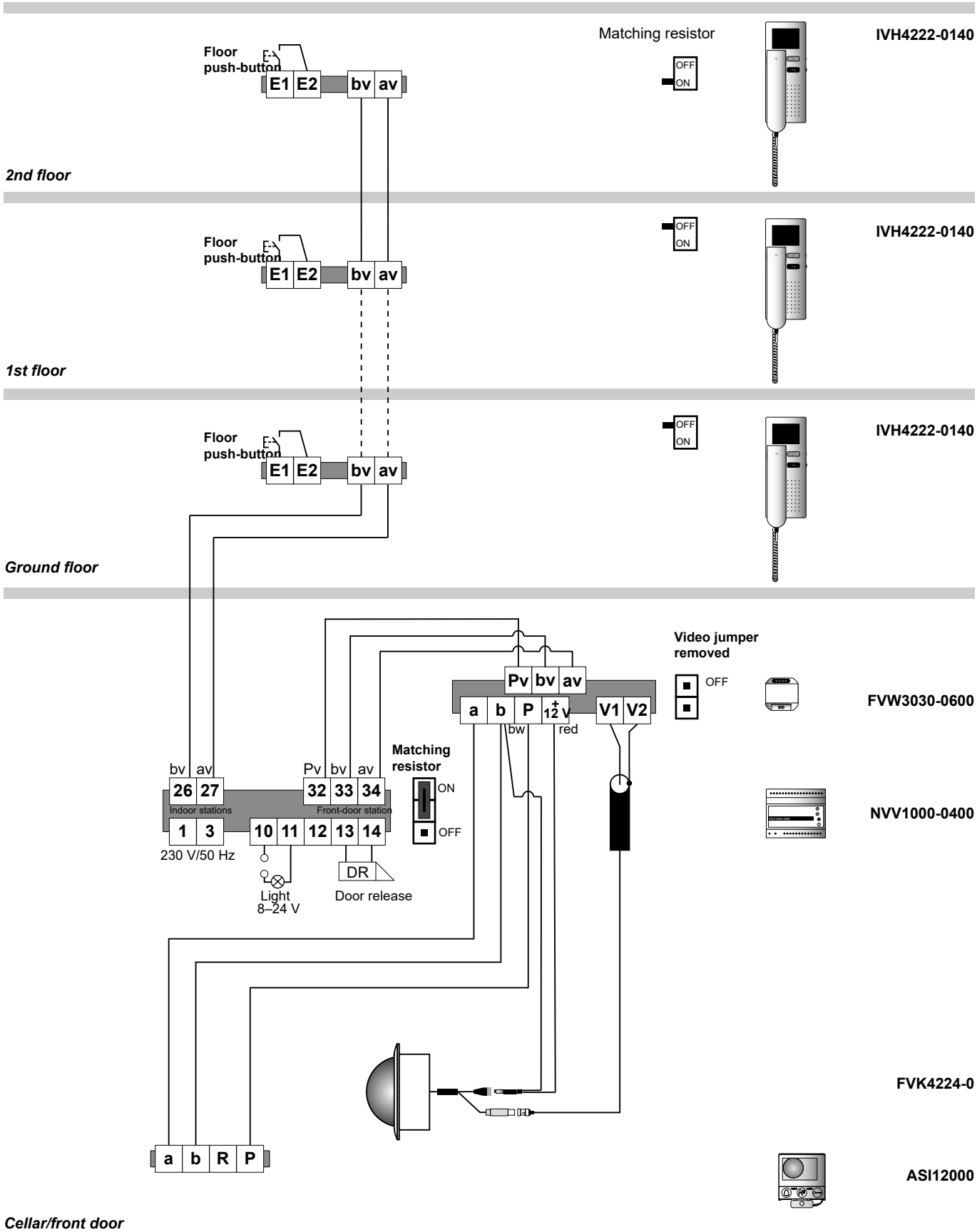
Strand cabling at the distributor: max. 2 strands at one output (shown per 1 strand per output)



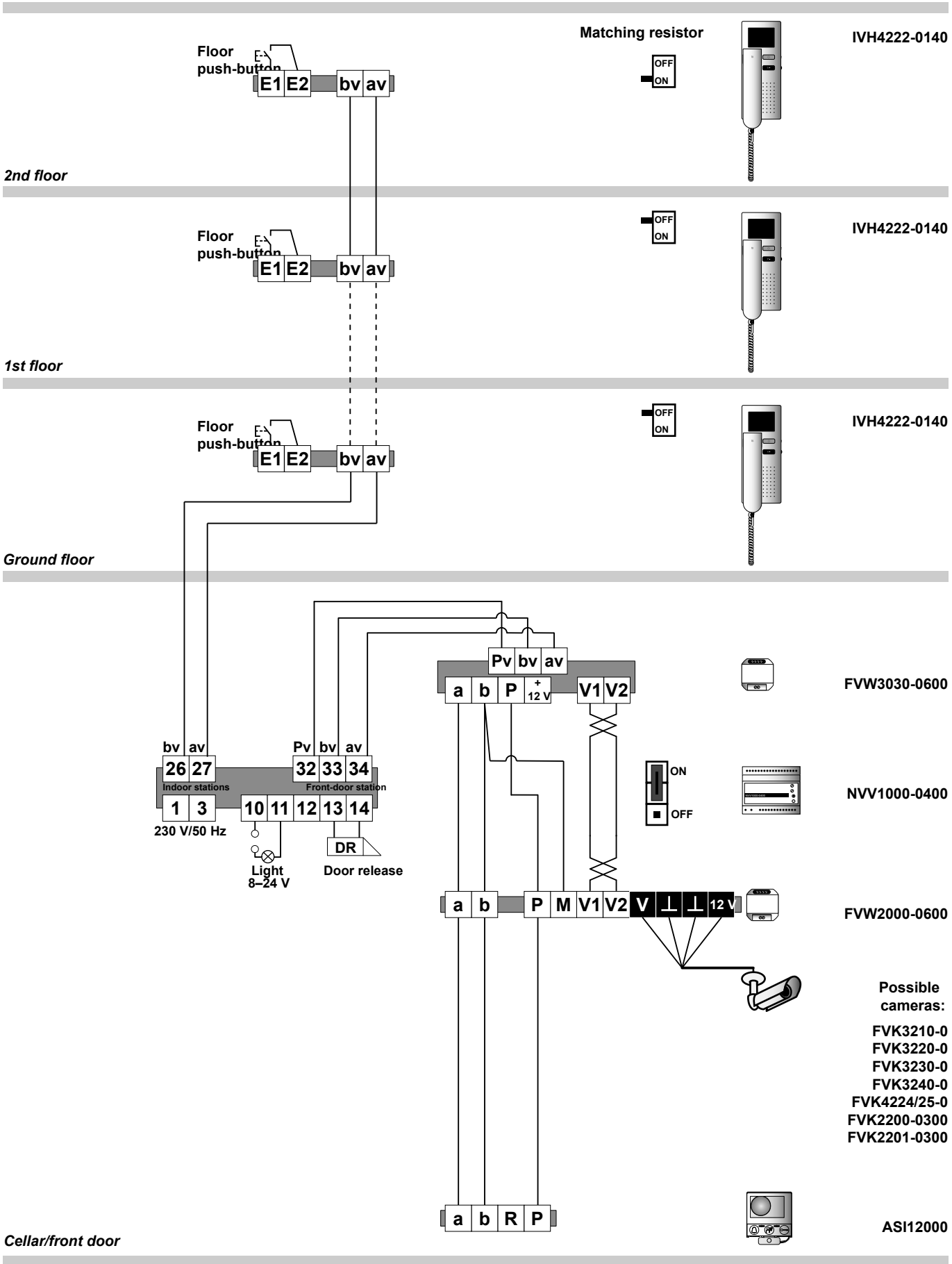
FVW3030 with a 6-wire video front-door station (TCS:BUS range)



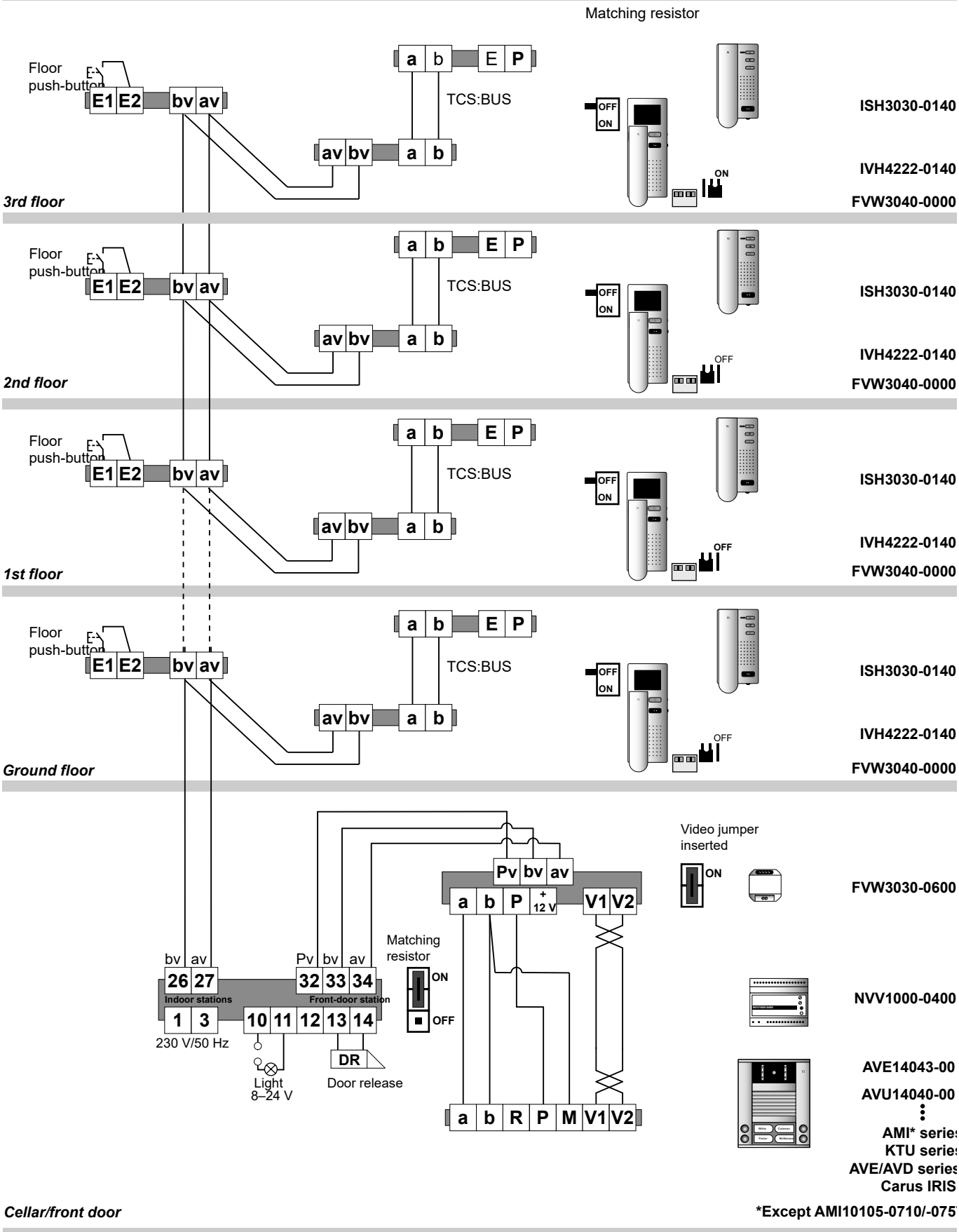
Standardised system with 2-wire video:BUS front-door station adapter and ASI12000 with camera FVK4224



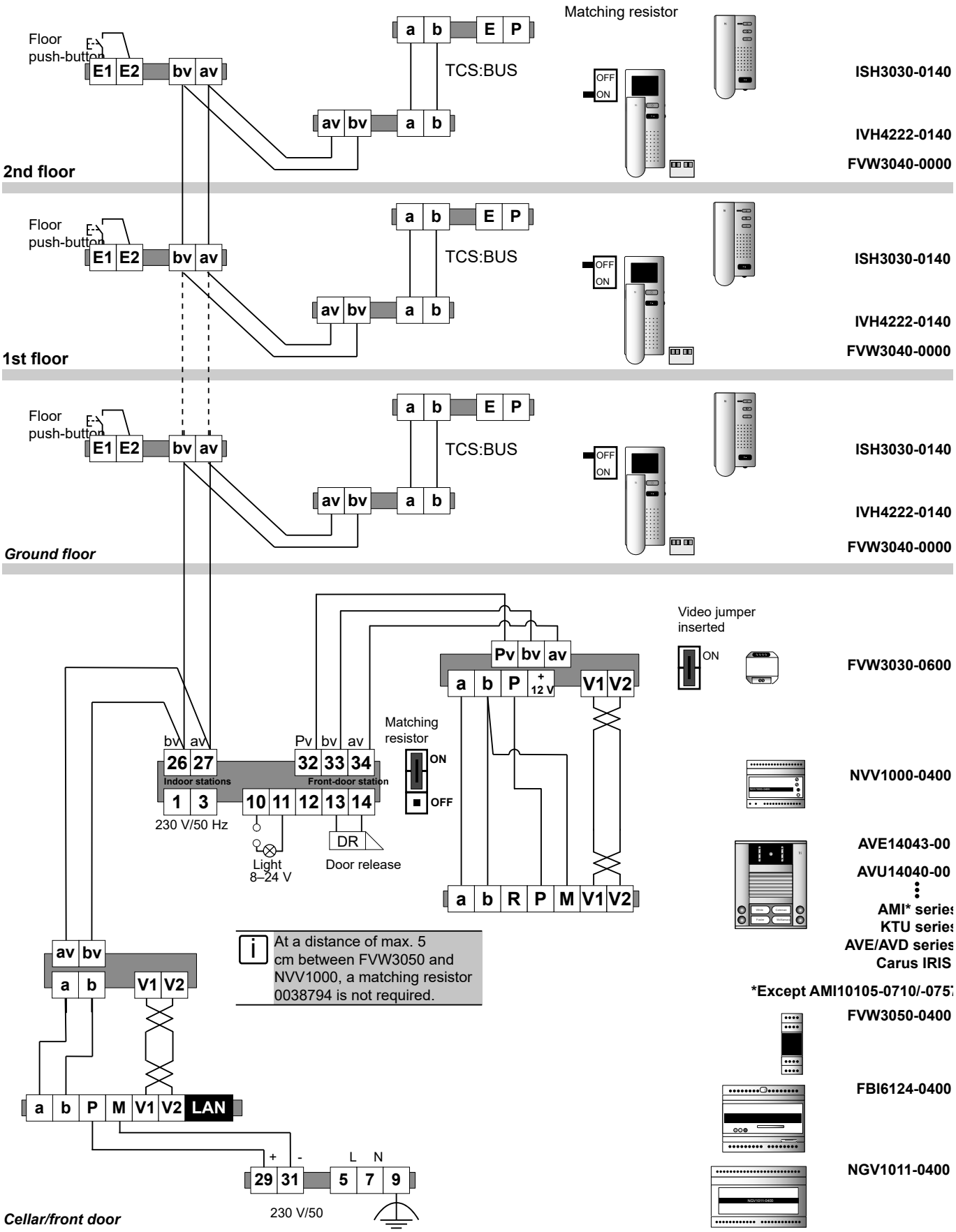
Standardised system with 2-wire video:BUS front-door station adapter and ASI12000 with cameras



Standardised system with 2-wire video:BUS filter board FVW3040-0000



Standardised system with 2-wire video:BUS splitter FVW3050-0400



GLOSSARY

Matching resistor	The plug, switch or jumper connects the matching resistor in the device with video lines V1/V2. It serves to avoid reflections at the ends of BUS devices and should match the wave resistance of the cable. If no matching resistor is present, signals are reflected at the ends of the cable and interfere with the forward signals. This can cause data loss.
Subscriber identification	Besides their own serial number, TCS front-door stations also have a subscriber identification. This is known as the AS address. To establish a voice connection, the called device needs to know which sender the call came from. This information is obtained from the AS address. It is not defined which AS address is assigned to a front-door station on delivery of the device. After switching on the mains power, the front-door stations automatically agree among themselves on the AS address assignment. It cannot be predicted which AS address is assigned to a front-door station. If the AS address is to be fixed, this must be entered in the front-door station using the TCSK-02 service device or configo™. All front-door stations must have a different AS address when assigning AS addresses! Values from 0 ... 63 are valid. Locking the subscriber identification, also called an AS lock, prevents the front-door station from automatically changing the subscriber identification.
Actuators	Actuators receive data protocols and translate these into actions, such as switching and dimming commands for lights, control commands for shutters and awnings or setting commands for radiator valves.
AS address | AS lock	See *Subscriber identification*.
Output impedance	The output impedance, also called the output resistance, is the resistance of a power supply at the output connectors of an electrical appliance or device.
Output voltage	The electric voltage measured at the output connectors of a power supply (e.g. power supply pack).
Output current (maximum)	The output current is the current measured at the output connectors of a power supply (e.g. power supply pack) to the electrical appliances. The maximum output current is the current that can be drawn by a load for a short time, such as when an electric motor starts up.
Operating voltage	Defined voltage range (in volts) for an electronic device within which a device functions reliably and without error.
Image activation	Function of a video indoor station: the image from the video camera is displayed on the screen by pressing the image button.
Data protocol	A data protocol is the fixed structure of a data block on the bus line. The structure of the data block is precisely defined so that all BUS devices can 'understand' it and process it further.
Digital signal conditioning	Technology used to optimise voice and image quality to ensure a disruption-free audio and video connection. Digitisation can compensate for echoes that cause feedback.
EEPROM	The EEPROM (Electrically Erasable Programmable Read-Only Memory) is a storage module in the front-door station. All programmed data such as serial numbers and parameters are stored in the EEPROM. If the front-door station needs replacing, a plug-in EEPROM can be removed and inserted into a new front-door station that is identical in construction.
Input impedance	The input impedance, also called the input resistance, is present at the input of an electrical appliance or device and loads the source device (e.g. power supply) that supplies its voltage at this input.
Input voltage	On the one hand, the input voltage is the operating voltage provided at the input of an electrical circuit by an external source. It ensures that the device functions and has a defined tolerance range. On the other hand, the input voltage is a value that corresponds to an input signal and always has a defined tolerance range.
Input current (maximum)	Current that an electrical appliance draws from a power supply with voltage present. The maximum input current is the current at maximum capacity.
Floor call	Pressing the floor push-button triggers a floor call. This calls the indoor station connected to the floor push-button.
Floor push-button	Push-button used to ring a floor door. The floor push-button is connected to the indoor station.
Floor door release function	With this function the indoor station can be configured so that both the front door and a floor door can be opened by the door release button. Depending on the source of the door call, the indoor station selects the door to be opened automatically.
Hands-free communication	Automatic changeover of the speech direction between talking and listening. The respective louder signal is transmitted to the remote station. Also see *Half-duplex operation* and *Full-duplex operation*.
Duplex communication	See *Full-duplex operation*.
Call cut-off, automatic	Automatic deactivation of a voice connection (e.g. when the handset has not been replaced) by the front-door or indoor station. The call duration is set on the front-door station using the service device or configo™ configuration software. If the call duration is exceeded, the front-door station automatically terminates the voice connection (factory setting is 56 seconds). If the front-door station does not terminate the voice connection, the indoor station automatically ends the call after 2 minutes (factory setting). When configuring with configo™, the call duration can also be set to 'unlimited'.

Half-duplex operation	Manual changeover of the speech direction between talking and listening (push-to-talk communication). The speech direction is controlled by the indoor station.
DIN rail	A DIN rail is a standardised mounting rail with a U-shaped profile similar to a hat (and thus also known as a 'top-hat rail'). It is used in housings, distributor systems and control cabinets. DIN rail cases are attached to the DIN rail by a clamping mechanism.
Internal call	An internal call is used to communicate between two indoor stations in a TCS door communication system. The function key is pressed on the indoor station to trigger an internal call (internal voice connection).
Bell button, unprogrammed	No serial number is assigned to the bell button.
Short circuit	Low-resistance connection between two points in a circuit with different potentials. Short circuits cause overcurrent to flow that can cause damage.
Short-circuit protected (short-circuit protection)	Short-circuit protection exists when an electrical or electronic circuit is not damaged if there is a short circuit at the outputs. Short-circuit protection is achieved through circuit design measures. This ensures that circuits are not damaged or destroyed by overvoltage, overcurrent or thermal load on an overload or short circuit.
Short-term memory	Limited short-term display of a door call following a door call.
Idle condition	A power supply is in idle condition if there is no electrical appliance connected to the electrical contact.
Open-circuit voltage	The voltage present when no current is flowing, i.e. if no electrical appliance is connected.
Light switch function	The light switch function permits double assignment of the door release button on the indoor stations. When the light switch function is activated, door release is only triggered on an active voice connection. The light is switched if there is no voice connection. The function key on the indoor stations is then free for other functions.
Light switch protocol	When the light switch function is triggered, a light switch protocol is sent to the TCS:BUS©. This triggers the light switching contact in the control unit.
Light switch time	The time for which the light relay in the power supply and control unit is activated.
Master	A master is understood to be a data terminal that handles the organisation and distribution of tasks between higher-level (master) and lower-level (slave) data terminals. Constellations like these are used to share the load among several power supplies. Also see *Slave*.
Audio privacy function	The audio privacy function ensures that the voice connection between the indoor station and front-door station cannot be heard by any other BUS devices.
Video privacy function	The video privacy function ensures that the video connection between the video indoor station and video front-door station cannot be viewed by any other BUS devices.
OSD menu	On-Screen Display (OSD) is a selection menu shown on the monitor and activated via the menu or image button on the device.
Parallel operation	The ability of one indoor station B to be logically switched in parallel to another indoor station A. Logically linking both indoor stations means that indoor station B also reacts to door, internal and floor calls to indoor station A.
Parallel call	A second indoor station also rings on an incoming door, internal or floor call. A ring tone sounds at both indoor stations. Several devices can be reached by one call. This call on the TCS:BUS® is enabled by programming a parallel serial number and is converted into a ring tone by more than one indoor station.
Block diagram	A block diagram is a graphically abstracted depiction of TCS door communication systems in various application environments. As a planning guide for installers, it shows possible system configurations with various power supply and control units and functional units.
Programming table	Tool for installers of TCS products for documenting the serial numbers of a TCS door communication system.
Protocol digit	Digit sent during programming with the TCSK-01 service device as a TCS:BUS© protocol with a certain function.
PTZ interface	Wall-mount device that supports protocols for controlling most of the PTZ cameras on the market. Connected to a PTZ camera, the PTZ interface can be operated as a stand-alone camera or assigned to a video front-door station on the TCS:BUS®. A video indoor station with the appropriate available operating elements must always be provided for control.
PTZ camera	If a PTZ (pan/tilt/zoom) camera is installed, the image section on the display can be varied by horizontally panning, vertically tilting and zooming the camera in and out. The resulting larger area of coverage means that video surveillance of several sides of a building, for example, is possible with just one camera.
Acknowledgement tone	Acoustic signal at a station during programming. Negative acknowledgement tone: command could not be executed. Positive acknowledgement tone: command was executed correctly.

Reflection	The distribution of electromagnetic waves on lines causes reflection at the cable end. If the cable's impedance is not adjusted, the signal is fully or partially reflected from the output to the input. Also see *Matching resistor*.
Ring tone	The ring tone is the sound the indoor station uses to acoustically signal a call from a front-door station or another indoor station to the user.
Ring tone suppression	If ring tone suppression is activated, door calls from the front-door and indoor stations are displayed optically. There is no acoustic signalling.
Call diversion	Call diversion forwards a door or internal call from a front-door station to a second indoor station in the TCS door communication system. The call destination must be programmed. Call diversion is activated by the function key on the indoor station.
Call distinction	The ability of an indoor station to detect an incoming call from various stations and to acoustically signal this to the user with different ring tones.
Wiring diagram	A wiring diagram is a graphically abstracted depiction of a circuit. It provides information on electrical functions and current flows from TCS door communication systems and describes the wiring of TCS system components.
Sensors	Sensors are understood to be all devices used to record and further process analogue values (temperature, brightness or motion) or binary information (e.g. switch positions, push-button pulses or messages).
Serial number	All system components on the TCS:BUS® have a unique, unalterable, six-figure serial number. This is used to address the selected device.
Slave	A slave is a simple data terminal controlled by a master station. In a master/slave constellation, the higher-level master station delegates tasks to the lower-level slave stations. Slave stations are passive communication subscribers that are required by the master station to receive or transmit data. Also see *Master*.
Voltage supply	Voltage source that provides electric voltage.
Call duration	The time for which a voice connection remains active following call acceptance, at the end of which the connection is automatically ended (call cut-off).
Sub-door call	In conjunction with a front-door call, the sub-door call function enables four different ring tones to be triggered on an indoor station by up to four bell buttons on a front-door station. This means that the ring tone indicates who the door call is for, for example the parents or a child.
Transformer	A transformer is a device that converts alternating voltage in order to transmit electrical energy to a required level.
Door standby time	Door standby time is the time from when the bell button is pressed to when the LED display on the indoor station goes out.
Automatic door release	If automatic door release is activated, the door automatically opens on an incoming door call. This is useful for doctor's surgeries, for example, to simplify visitor access during surgery hours. This function is activated/deactivated by the function key on the indoor station.
Door release function	Trigger of the relay for the door release on the power supply and control unit.
Door release protocol	Protocol on a door release relay or power supply and control unit for door release. Without a serial number: short TCS:BUS® protocol; with a serial number: long TCS:BUS® protocol.
Door release time	The door release time is the length of time for which the door release is activated. This can be adjusted.
Door call	Pressing the bell button triggers a door call on the assigned indoor station.
Concealed screws	A concealed opening technique on the front-door station to protect it against vandalism. Here, the front-door station is opened from below for installation and to change the name plate glass. After the screws have been loosened, the lower panel is swung out to the side and the name plate glass removed from below.
Full-duplex operation	In full-duplex operation (duplex communication) information is transferred simultaneously in both directions, making it possible for both communicants to talk and listen at the same time.

Push-to-talk communication	See *Half-duplex operation*.
win:clip™ system	No screws are visible from the outside on the audio or video front-door station. To install and replace the name plates, the name plate glass can be easily removed and replaced with the help of a small special key (win:clip™).
Status indication	Display that indicates an activity.

NOTES

Wir öffnen Welten

TCS TürControlSysteme AG
Geschwister-Scholl-Straße 7
39307 Genthin
Germany

Head office +49 3933 8799-10
Fax +49 3933 8799-11

Email info@tcsag.de
Web www.tcsag.de

TCS TürControlSysteme GmbH
Österreich
Gewerbepark C10
2821 Lanzenkirchen
Austria

Head office +43 2627 45266-0
Fax +43 2627 45266-20

Email office@tcs-austria.at
Web www.tcs-austria.at

OFFERS
Phone +49 4194 9881-166
Fax +49 4194 9881-169
Email angebote@tcsag.de

SALES
Phone +49 4194 9881-144
Fax +49 4194 9881-149
Email verkauf@tcsag.de

TRAINING COURSES
Phone +49 4194 9881-155
Fax +49 4194 9881-159
Email schulungen@tcsag.de

HOTLINE
Phone +49 4194 9881-188
Fax +49 4194 9881-189
Email hotline@tcsag.de

Presented by

Version on going to print 04-2021 | Subject to change without notice. TCS AG's terms and conditions of sale apply: www.tcsag.de | Art. VF9727