Product information

Video indoor station for hands-free talking IMM2300

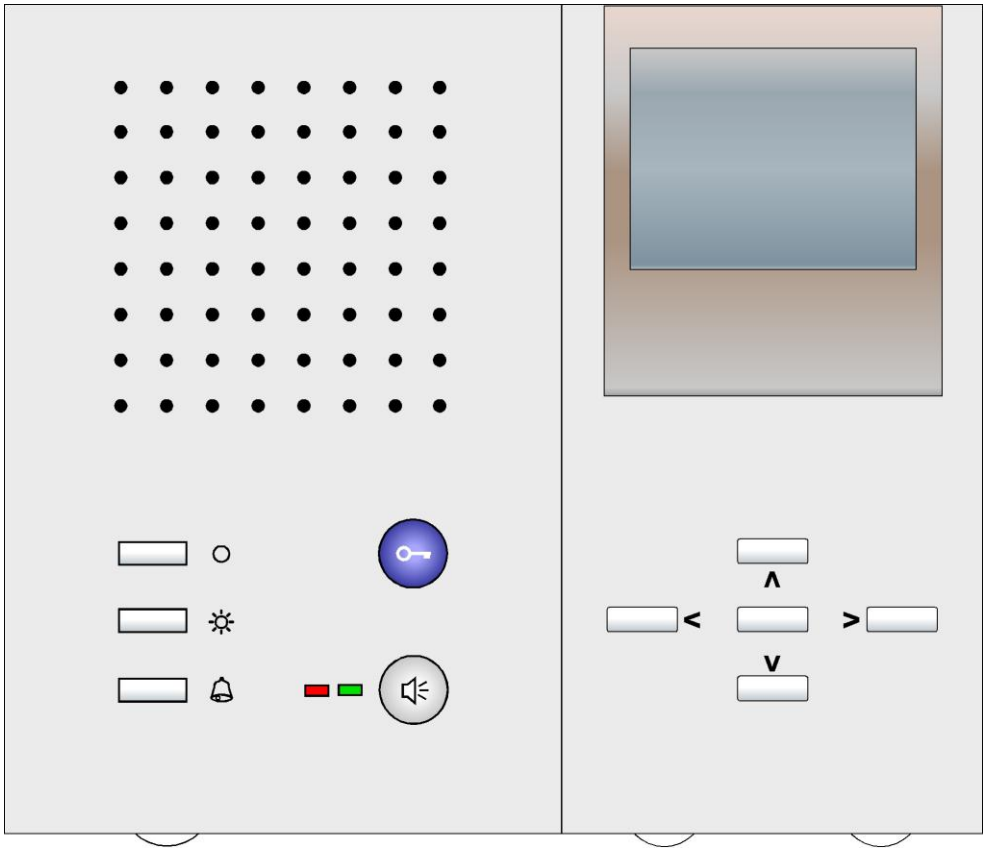


Table of contents

Scope of delivery

1 x indoor station IMM2300
(lower cover, upper cover of basic module, lower cover of video module)
1 x pluggable screw terminal for connecting the video modules
product information
instruction manual

Safety instructions

! Mounting, installation and commissioning have to be carried out only by qualified electricians!

When working in systems with 230 V mains 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:

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

! With suitable requirements to protect against lightning, it has to be ensured that a voltage of each 32 V DC is not exceeded at the TCS:BUS wires a and b.

General information on the cable routing in TCS video systems

Term

6-wire operation	Standard operating mode. Video operation in which two separated masses (b and M) are used.

6-wire operation

The cable routing is determined by the given structural conditions and is only limited by the length.

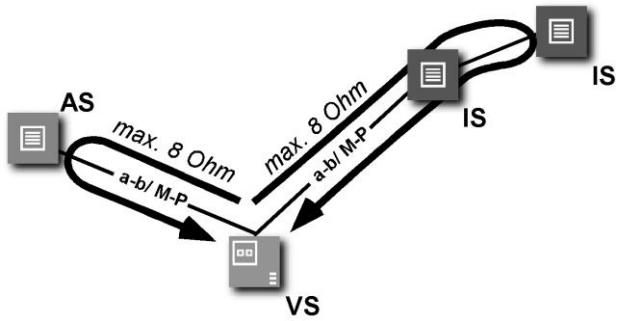
- When choosing the cable length observe: the loop resistance a-b and M-P should not exceed the maximum of 8 Ω (table 1).
- If the loop resistance exceeds 8 Ω: plan multiple wiring of the lines (double twisted strands).
- Optional strand or star formed wiring.
- Do not use more than 6 video indoor stations per strand. For systems with more video indoor stations plan the use of video distributors (FVY1200, FVY1400).
- Up to 64 front-door stations (16 of them with video) and almost an unlimited number of indoor stations can be connected polarity-free (a/b) within one system (polarity-free only in 6-wire operation). For this, a suitable power supply and control unit has to be used.

Table 1: loop resistances

cable length a-b/ M-P in m	**cable 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

Principle loop resistance

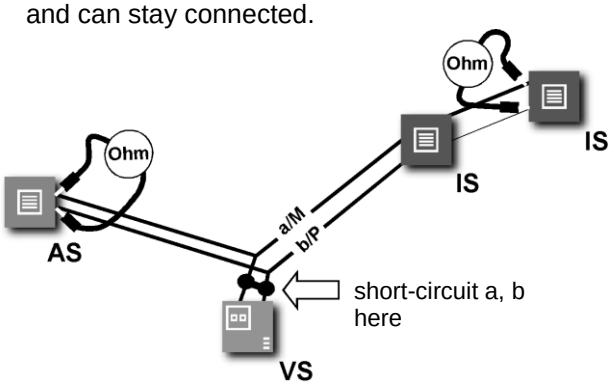
Rule:
None of the devices (AS, IS or FE) should each be further than **8 Ohm** away from the power supply control unit (VS).



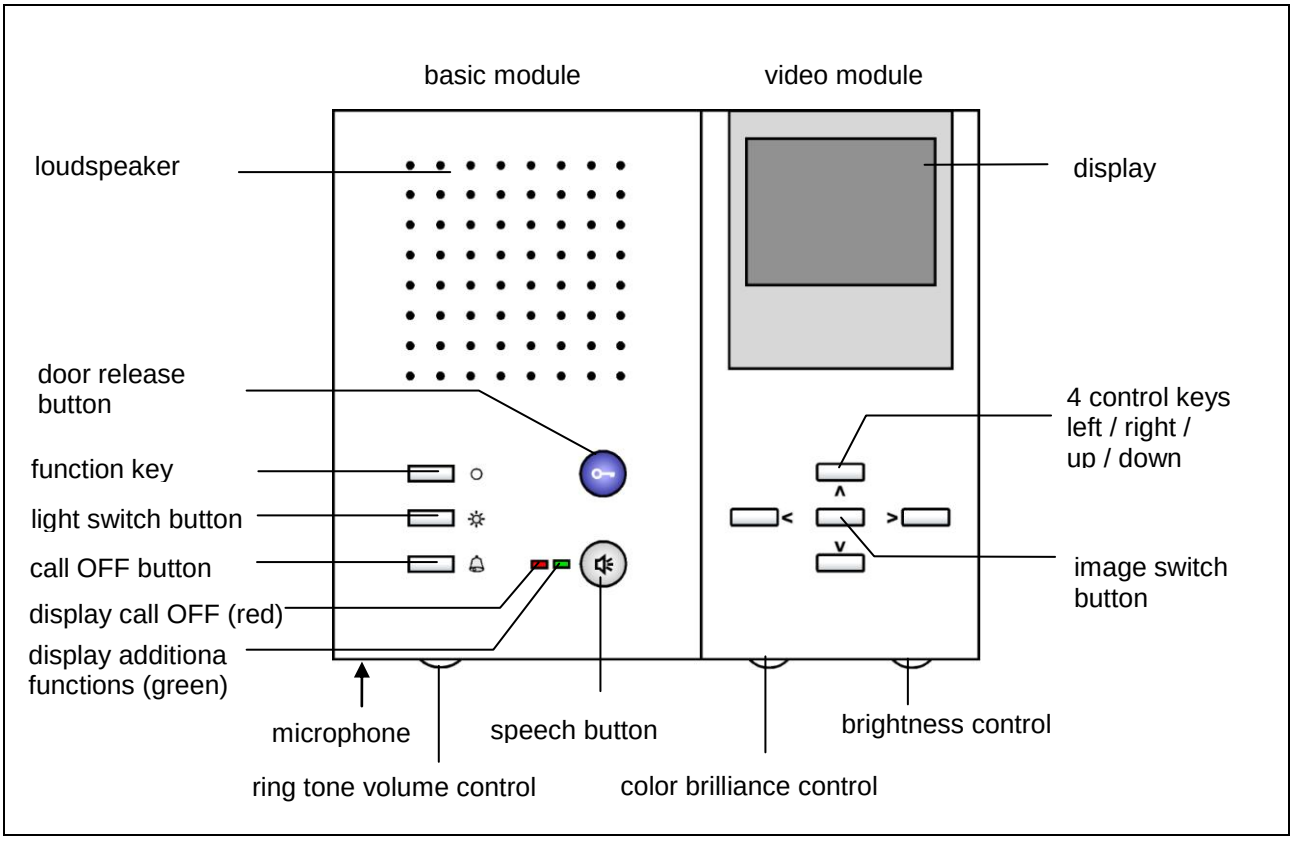
8 Ohm:
around 65 m distance AS-VS by 0.6 mm diameter
around 115 m distance AS-VS by 0.8 mm diameter

Measurement loop resistance

Rule:
- Switch off 230 V / 50 Hz of the VS.
- Install a-b short-circuit at the VS.
- All other devices do not disturb the measurement and can stay connected.



Device overview



Technical data

supply voltage:	+24 V ± 8 % (power supply and control unit)
housing:	plastics, (colors like in price list)
housing dimensions:	H 146 mm x W 172 mm x D 27 mm
mounting dimensions:	H 148 mm x W 172 mm x D 29 mm
weight	300 g
acceptable ambient temperature:	0 °C to 40 °C
degree of protection:	IP 40
input current standby (3-wire operation):	I(a) = 0.5 mA, I(P) = 4.7 mA
max. input current:	I(Pmax) = 155 mA
video module	TFT-color module
screen diagonal	2.4 inch
resolution	480 x 234 pixel
video signal entrance	symmetrical 1 Vss FBAS

Only video 6-wire technique possible!

Display and control elements

display call OFF (red)	• call OFF activated (LED is ON) or • display of busy speech channel (LED blinks)
display additional functions (green)	• door call, incoming internal call, speaking active • door release automatic or call diversion, if activated
speech button	• call acceptance, activate speaking, simplex communication • end communication • ring tone selection (door call front-door station 2, AS > AS threshold*)
door release button	• open the door (= WE**) • end communication • ring tone selection (door call front-door station 1, AS ≤ AS threshold) • trigger light switch function***
function key in the basic module	• control function 8 (= WE) • internal call (to the indoor station) • door release automatic • call diversion • ring tone selection internal call (call from the indoor station)
light switch button	• switching lights • ring tone selection floor call (call from the flat door)
call OFF button	• ring tone OFF button • end communication • initiating and ending the programming and ring tone selection
ring tone volume control	ring tone volume continuously adjustable
image switch button in the video module	• to switch on the image resp. • to switch between different cameras
4 control keys in the video module	to swivel and incline a PTZ camera (left, right, up, down)
brightness control	continuously adjustable
contrast/color intensity control	continuously adjustable

* *Factory setting: AS threshold = 0, limit of the AS address areas can be adjusted with the device configurator configo™ or set ex works on requirement.*

** *WE = factory setting*

*** *if the light switch function in the front-door station is activated*

Application

- Manually controlled simplex communication can be activated.
- The IMM 2300 is an indoor station for hands-free talking, manually controlled simplex communication can be activated
- It is designed for surface-mounting.
- It is suitable for the operation in TCS video systems and combined audio/video systems.

Brief description

Basic module

- speech button: for call acceptance and switching over speaking / hearing
- light switch button
- blue door release button with floor door release function (can be activated)
- speech button: for call acceptance and reversing key speaking / hearing
- function key (ex works: with control function) with alternative allocation (can be activated): internal call, door release automatic, call diversion
- ring tones can be adjusted by the resident, choice of 13 ring tones
- acoustic call distinction between 2 doors, flat door and internal call
- ring tone volume can be adjusted manually, volume for internal communication adjustable
- ring tone mute with optical display
- optical display of door calls
- optical display of a busy line when communication is established
- automatic hands-free talking after internal call can be activated
- one parallel call can be activated
- sending of the sender serial number in case of internal calls can be (de-) activated, source indication e.g. at IMM1100 or IMM2100 possible (with configuration software configo™)
- unlimited communication time can be switched ON/OFF (with configuration software configo™)
  (but limited by other indoor or front-door station, that is realising the voice communication)
- audio privacy function and automatic call cut-OFF

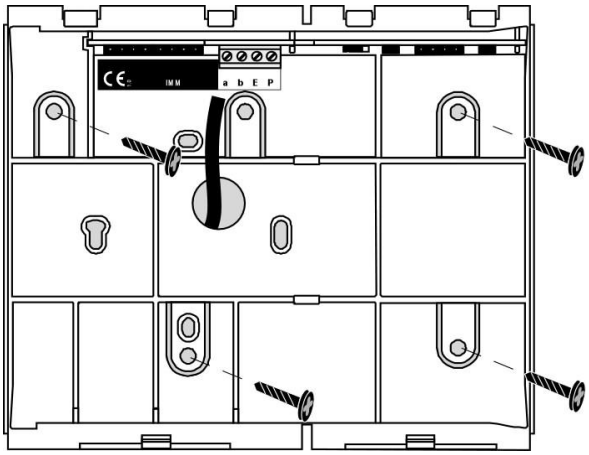
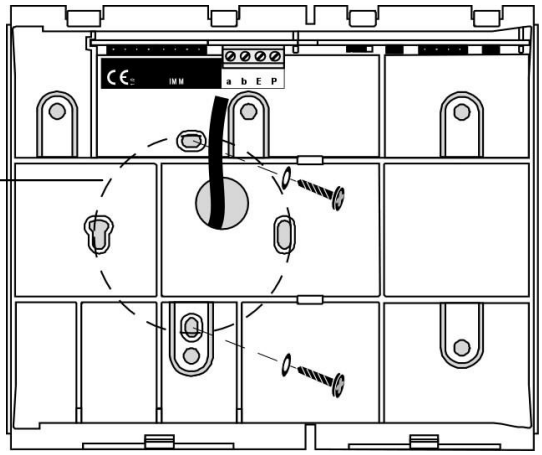
Video module

- video surveillance: image switch button to switch on the image resp. for switching between different cameras
- AS dependent video image activation
- 4 control keys (right, left, up, down)
- brightness, color saturation / manually adjustable
- integrated two-wire video receiver for direct connection to TCS video systems

Mounting and installation

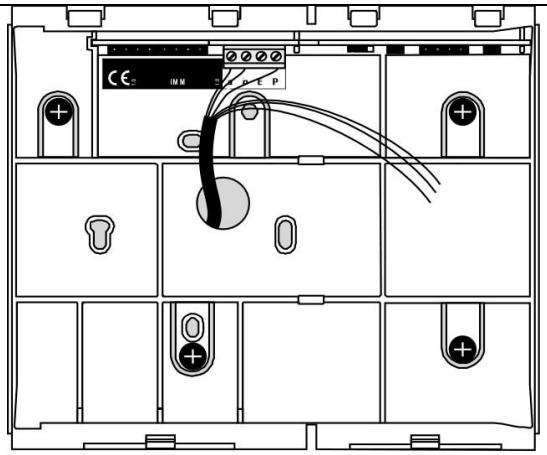
! **Attention!**
The video indoor stations have to be (de-)installed voltage-free only!

Installing the lower cover

Without flush-mounted socket Install the lower cover at the attachement holes with suitable screws on the wall (as shown in the illustration).	*lower cover* 
With flush-mounted socket Position the flush-mounted socket behind the cable gland. Install the lower cover at the attachement holes with suitable screws on the wall (as shown in the illustration).	position flush-mounted socket 

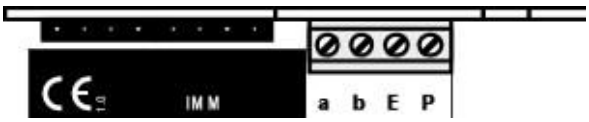
Connecting the lines

- Cut the wires for the basic and video module in different lengths (see illustration to the right).
- Minimize the length of the lines above the lower cover to place the lines without any problems and do not clamp the lines when snapping-on the upper cover.



Connecting the device

- Connect the lines according to the labelling.

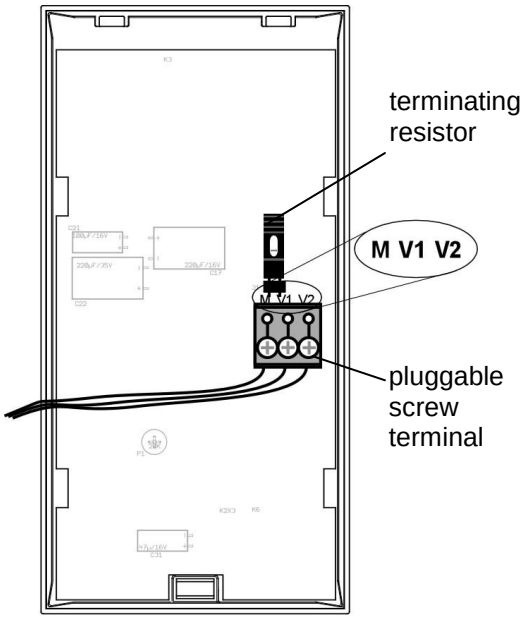


Connecting the video module

- Connect the prepared video lines to the pluggable screw terminals (in the accessories) and plug them to the tripled pin header (see illustration) at the printed circuit board of the video module.
- Pay attention that V1 and V2 are connected correctly!
- Make sure that the plug-terminal is plugged in accordance to the illustration!

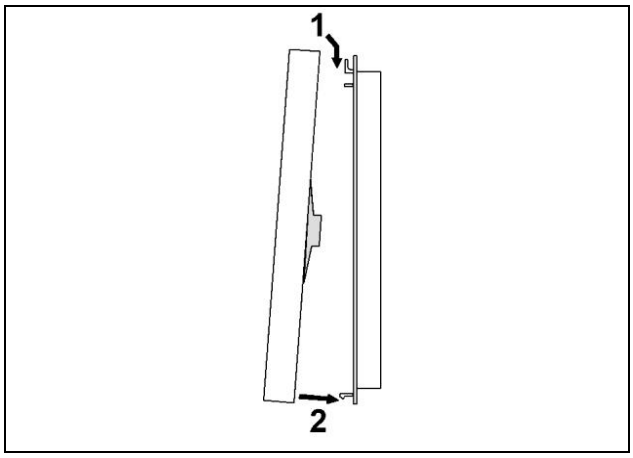
Terminating resistor

- Remove the terminating resistor if the device is <u>not</u> installed at the end of a TCS:BUS video strand.



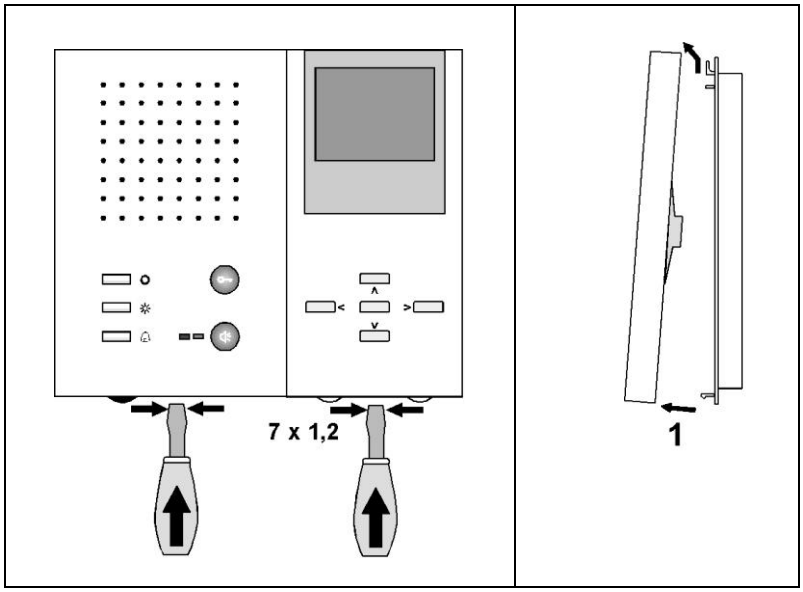
Snapping-on the upper covers of the modules

- Put on the upper cover on both locking brackets at the lower cover (**1**).
- Lock the upper cover in place (**2**).



Opening the device

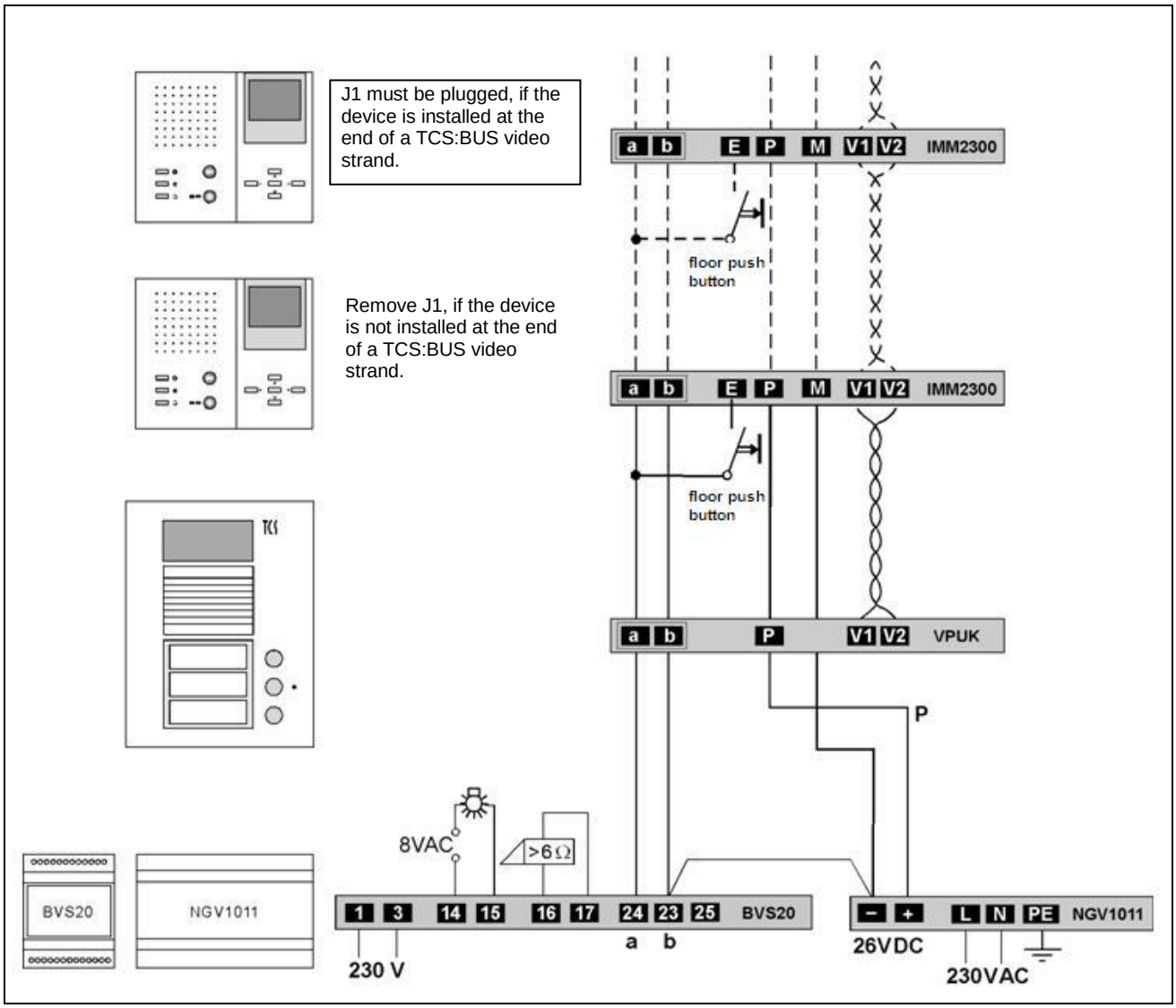
1. There are rectangular release openings at the underside of the device for every module. Insert a screwdriver (around 7 mm) with slight pressure straight into this opening.
2. The upper covers can be removed at the underside.
3. Lift the upper cover of both upper locking brackets.



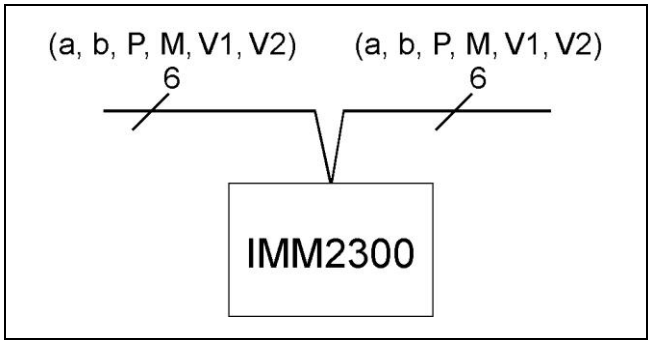
Notice on the power supply

! • In case of power supply with BVS20 or BVS100 additionally use NGV1011!

Wiring example



Connection diagram



Commissioning

! First, completely install the system, then connect it to voltage !

- V1 and V2 must not be connected with P-, a- or b-wire.
- When connecting the video wires V1 (+) and V2 (-) the polarity has to be observed. In case of a distorted image after the commissioning, switch off the device and change the wires for the video signal.

Settings

Presets ex works

The video indoor station is equipped with an EEPROM, in which the following device settings are stored.

Preset times

communication time	max. 2 min
image switch time	80 sec
flashing period of the red LED, if • „video-/speech channel is busy“ when pressing the speech or image button	3 sec 6 x flashing
internal standby time	around 2 min, if the device was called
	around 30 sec, if the device is calling and waiting for call acceptance

AS-address dependent image activation

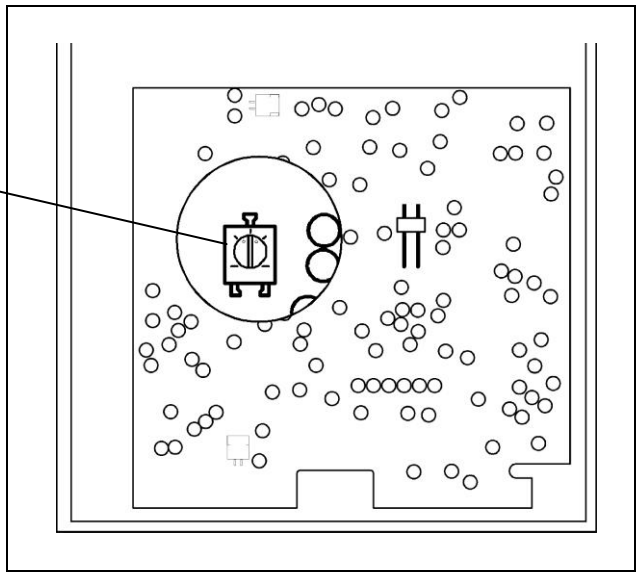
If there are not only video front-door stations but also front-door stations without camera within one system, the image is not activated, when a call arrives from these front-door stations.
In order to guarantee this function, all possible AS-addresses are separated into two areas:

AS-address 0 – 31*	reserved for video front-door stations	image is activated in case of a door call
AS-address from 32	free, for front-door stations without camera	image is not activated in case of a door call

* *The limit of the AS-address areas can be adjusted ex works if required.*
***Note**:*
The AS-addresses of the front-door stations should be allocated via Service Device.
*For more information see service information **within the TCS Installer 5 / 4** (version 1) or **TCS Installer 7 / 4** (version 2).*

volume internal communication

- Turn the volume control clockwise to increase the volume.



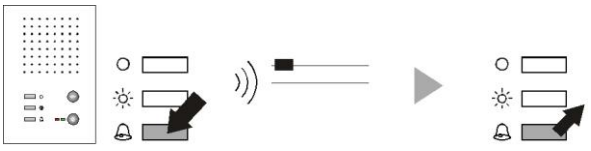
Programming the basic module

Manual programming

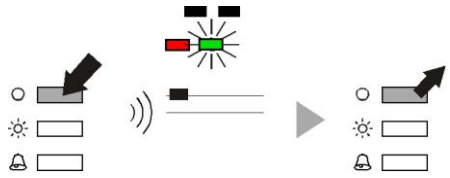
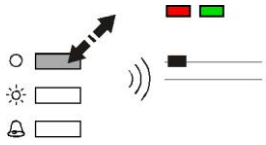
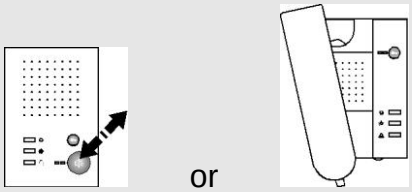
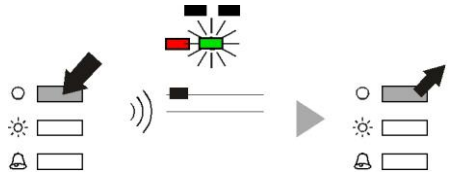
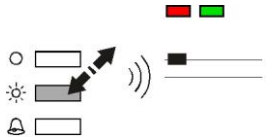
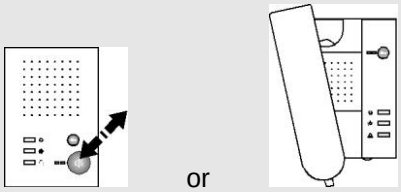
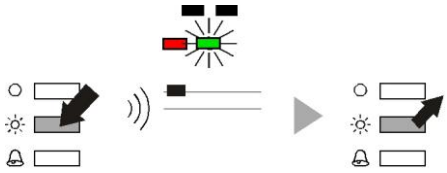
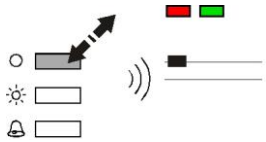
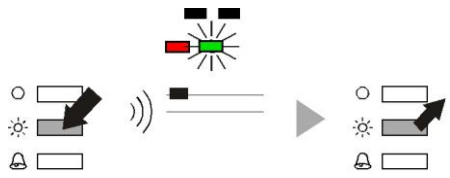
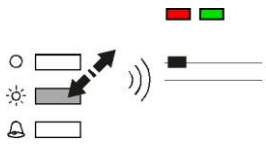
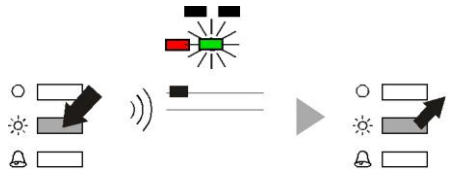
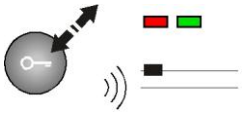
Legend for programming

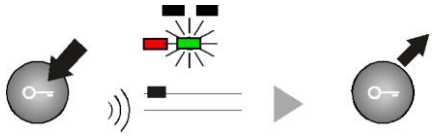
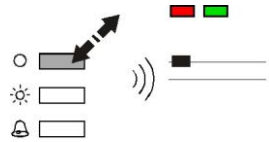
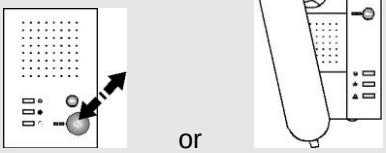
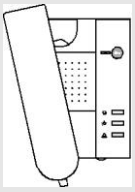
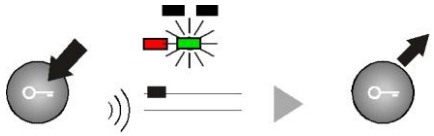
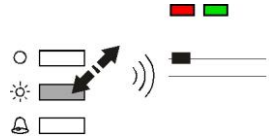
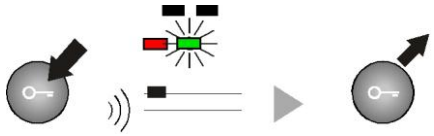
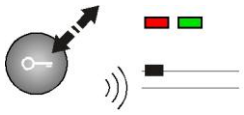
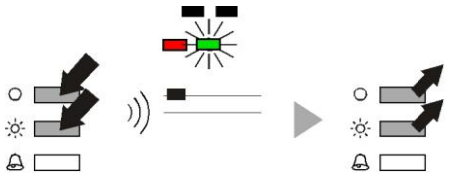
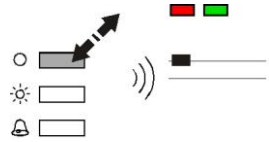
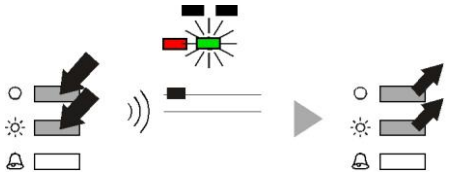
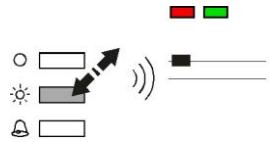
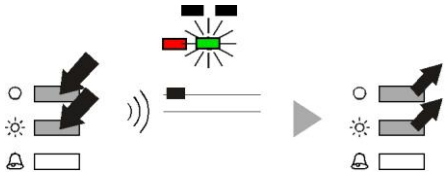
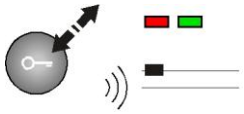
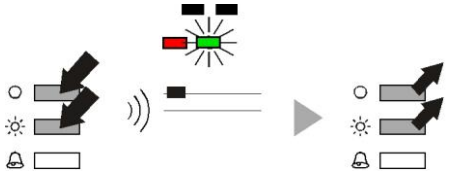
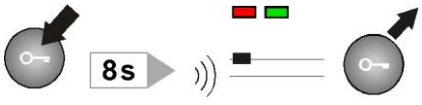
	The programming takes always place in four steps:
1	**Initiate the programming**
2	**Preselection**
3	**Final selection**
4	**End the programming**

1	Initiate the programming

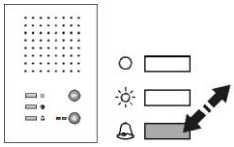


press call OFF button (8 sec), until a short acknowledgement tone sounds — release

Programming function	**2 Preselection** press button (8 sec) until a short acknowledgement tone sounds and the green LED blinks, release button	**3 Final selection** press button short, short acknowledgement tone sounds and green LED goes out
door release automatic		
call diversion **Note**: Before programming the call diversion, the AS-address of the front-door station is to be set and blocked with the Service Device.	**to be executed at the destined indoor station:** press speech button / lift handset  or 	
internal call (at function key)	**to be executed at the destined indoor station:** press speech button / lift handset  or 	
control function 8 (at function key)		
switch on automatic hands-free talking after internal call (if switched off) or switch off (if switched on)		

switch on floor door function (if switched off) or switch off (if switched on)		
Programming function	**2 Preselection**	**3 Final selection**
switch on parallel call Note: Deactivate the function with programming function *reload factory setting.*	**to be executed at the destined indoor station 1:** press speech button / lift handset  or  	
switch off parallel call		
block ring tone selection		
block manual programming		
lift pogramming lock **Attention!** • First switch on the BVS programming mode of the system. • Carry out the steps 1 to 4. • Switch off programming mode of the system.		
reload factory settings		 press door release button for 8 sec

4	End the programming



Press call OFF button short or automatically, if no button is pressed for more than 8 sec.

Programming with the Service Device TCSK-01

For further information see ***TCS Installer, 7*** *Service Device TCSK-01* or programming handbook TCSK-01.

searching **telephones**	✳ 52 #
parallel call	✳ 99 # Ser No # ParS No #

Operation

Ring tone selection

In total, for 4 different incoming calls (door calls from 2 front-door stations, floor call, internal call) different ring tones can be adjusted.

1	End voice communication: press call OFF button for around 8 sec. With the output of a signal tone the ring tone selection is activated.	
	By pressing the following buttons a ring tone can be selected. You can chose between 13 tones: 7 alpha tones, 6 gong tones.	
2a	select ring tone from the front-door station*	Press *door release button* until the desired ring tone sounds. The ring tone selected last will be stored.
2b	select ring tone from second front-door station (if existing)	Then press the *speech button* until the desired ring tone sounds. The ring tone selected last will be stored.
2c	select ring tone from floor door	Press the *light switch button* until the desired ring tone sounds. The ring tone selected last will be stored.
2d	select internal ring tone	Press the *function key* until the desired ring tone sounds. The ring tone selected last will be stored.
3	Press call OFF button shortly. If no button is pressed for more than 8 sec, the device automatically terminates the adjustment mode for ring tones. With the output of a signal tone, the ring tone selection is deactivated.	

* *When first adjusting the ring tone, also the second front-door station is fitted with the same ring tone as the first one. If the ring tone is adjusted separately (2b) for the second front-door station, it always has to be set independently.*

FAQ

Error pattern	Possible causes	Our suggested solution
The video image is black and white.	The color saturation control of the indoor station is set to minimum.	Adjust the contrast resp. color saturation control.
	The transmission level of the video BUS is too low.	The transmission level can be readjusted at many components of the video BUS (e.g. FVY). Please check it in the product information of the active transmission components.
	The light intensity of at least 10 lux is not reached. Thus the camera switches to black/white.	The camera modules of the front-door stations are very photosensitive. Please ensure a sufficient illumination or use external cameras.
The colors at the video monitor of the indoor station are too bright or the image in total is too bright. 	The color saturation control at the station is set too high.	Turn down the color saturation control.
	The brightness control of the station is set too high.	Turn down the brightness control at the station.
	The level of the video signal is too high.	Turn down the level of the video BUS (e.g. rotary switch at the board of the camera). Is only working, if the terminating resistance at the station or active extended functions (e.g. FVY) is set correctly.
	The terminating resistor at the end of the strand is not plugged.	Please plug the terminating resistor.
Colors on the monitor are without contrast. 	The video signal level is not sufficiently high enough.	The connection lines of a surface-mounted camera were extended incorrectly.
		The line length between two active video components was impermissibly exceeded.
		Level reduction can be compensated to some extend by rotary switches at active video components (see product information of the components).
		Please check if the number of allowable video indoor stations per strand has not been exceeded.
	The terminating resistors at the video distributors or video switches with loop through signals are not installed properly.	Remove the terminating resistors of the involved components. Only the last video component of the strand requires a terminating resistor

In one building block with several indoor stations, only one indoor station shows black lines on the video image. 	Image interferences due to transition resistance.	The P-wire is not connected properly.
		Die Anschlusskontakte sind nicht richtig fest.
	Image interferences due to near disturbing sources such as external power supplies or other electric appliances, which are not shielded.	Relocate the video distributor and any other passive assembly package.
	Distortion due to compensation currents caused by potential differences.	Please check the line installation and try to install active components to one potential.
		Insert a coupling element into the video BUS in order to electrically insolate it. Please contact our technical distribution in order to get these accessories.
Distorted image. 	No accurate video signal due to interchanged video wires.	The video BUS is not reverse polarity protected. Please change the wires V1 and V2.
The image rolls. 	The video signal cannot be synchronised.	Please check if all wires of the video BUS are connected. If necessary please adjust the video level.
Multiple contours occur. 	Image reflections, so called ”ghost images“ occur due to open lines.	The video strand is not closed. Please insert the terminating resistor at the last device of the strand.
Contours of the second image are visible. 	Two video sources interfere.	Please remove the second video source from the strand. If necessary, connect this second video source via a video switch to the existing TCS:BUS.

No image. Image switch button does not respond when pressing.	No signal present.	Connect the monitor in front of the video switch and check whether a signal is available here.
		Measure the voltage between P and b. The voltage usually is about 24 V. If this is not the case, please check the power supply of the BUS.
	Not both wires of the video BUS are connected.	Please check the connection of the video connector in the video module of the IMM.
The video image turns white after a while. When switching the supply voltage off and on again, the signal will reappear. After a while, the video image turns white again.	Thermal defect of the outdoor camera.	The V1 of the video BUS short-circuits the P- or b-wire. This causes an impossible increased current. Please check the wiring for short-circuits.
		The camera is defect.

Cleaning

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

Clean the device with a dry or slightly moist cloth.
Remove stronger stains with a mild plastic cleaner.

Service

Please send your questions and inquiries to
hotline@tcsag.de

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