TCS

Product information

Video indoor stations color skyline[TM] IVW3012-0x10

IVW3012-0110 surface-mount
IVW3012-0210 flush-mount

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Scope of delivery

1 x IVW3012 (surface-mount box or flush-mount box and front unit)
    Product information
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Safety instructions

General safety regulations

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

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

During the installation of TCS:BUS systems the general safety regulation for telecommunication systems according to VDE 0800 have to be observed. Inter alia:

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

Installation – protective measures

> **!** With suitable maesures to protect against lightning it has to be ensured that a voltage of each 32 V DV is not to be exceeded at the connections a, b, P, E, M, V1, V2, C.

Device overview

retaining magnets display loudspeaker

1 indication for short messages
2 function display for door release automatic / call diversion
3 image buffer indication
4 call OFF indication
5 speaking indication
6 operation indication

navigation keys UP, DOWN, LEFT, RIGHT

menu button

image button

function key

button to store images

call OFF button

speech button

door release button

connection cable

microphone

The construction elements indicated with dashed lines are located at the inside of the front panel unit.

Indication and operating elements

	designation	function
	display	• displays the video image • display ring tones and image parameter, as well as menus of the On-Screen-Display (OSD)
	menu button	• call main menu (if the device is in stand-by mode) • call menu image parameter (if the live image is ON) • select and confirm image parameter menu or ring tone parameter menu • select and confirm: main, internal call or control function menu • start video / image reproduction (if mode to store images is activated) • call image buffer menu and time setting

	navigation key UP	**press shortly** • panning upwards of the live image detail • select a list entry upwards in the internal call or control function menu • increase the value of a selected parameter • zoom mode: enlarge the image **press and hold (longer than 4 sec)** • + navigation key DOWN: reset to factory setting
	navigation key DOWN	**press shortly** • panning downwards of the live image detail • select a list entry downwards in the internal call or control function menu • reduce the value of a selected parameter • zoom mode: downsize the image **press and hold (longer than 4 sec)** • delete image in the image buffer (indication) • + navigation key UP: reset to factory setting
	navigation key LEFT	• Panning of the live image detail to the left • navigation in the menus, sub menus, parameter or in image buffer mode • image reproduction: forward to the prior image
	navigation key RIGHT	• panning of the live image detail to the right • navigation in the menus, sub menus, parameter or in the image buffer mode • image reproduction: forward to the next image
	image button	**press shortly** • switch on the live image or switch between different cameras, when the live image is displayed • exit zoom mode • directly call up short message menu directly, if a new, unreaded short message exists (only possible, if no call is incoming and speaking is not activated) **press and hold (longer than 4 sec)** • live image, activate zoom mode
	function key	**press shortly** • switching lights (= flat**) alternatively: • send control function 8, make internal calls, door release automatic ON/OFF, call diversion ON/OFF • call up control function menu or internal call menu (can be configured with configuration software configo™) • switch off OSD menu indication
	image buffer button	**press shortly,** • **if LED is ON:** record video / image manually (only if a live image is displayed) • **if LED blinks:** call up image buffer menu **press and hold (longer than 4 sec)** • activate / deactivate automatic image recording

	call OFF button	• turn OFF ring tone • end communication, if the video indoor station IVW3012 is configured as simplex communication device (with configuration software configo^{TM})
	speech button	• call acceptance, activate communication, simplex communication • end communication
	door release button	• open the door (= flat**) • end communication • trigger light switch function***
🟢	LED 1, green: short message indication	• **blinks**: unreaded, new short messages
🔴	LED 2, red: function indication T door release automatic / call diversion	• **ON**: door release automatic or call diversion is activated • **OFF**: door release automatic or call diversion is deactivated
🟡	LED 3, yellow: image buffer indication	• **ON / OFF**: automatic to storage of images is activated / deactivated • **blinks**: indication *new stored image*
🔴	LED 4, red: call OFF indication	• **ON**: call OFF is activated
🟢	LED 5, green: communication indication	• **ON**: door call, incoming internal call, communication is activated • **blinks**: indication *communication/ video channel is busy*
🔵	LED 6, blue: operation indication	• **ON**: indicates operational readiness • **flashes**: error indication

** flat = preset at the factory
*** if light switch function is activated at the front-door station

Intended use

- **IVW3012** are video indoor stations of the skyline series with color display for hands-free talking and simplex communication. They are suitable for the operation in building communication systems in combined audio / video systems.
- The operation is realised through buttons and the On-Screen-Display (OSD).
- The video indoor station IVW3012-0110 is suitable for surface-mount and the video indoor station IVW3012-0210 for flush-mount and cavity wall mounting.
- Both are suitable for indoor use.

Short description

audio and video features
- hands-free talking, manually controlled simplex communication can be activated
- automatic hands-free talking after internal call / can be activated with configo™
- acoustic call distinction in case of 2 different door calls (less than or equal to audio AS borders and larger than audio AS border), 4 sub door calls, floor call and internal calls
- 1 parallel call / can be activated with configo™
- selection out of 13 polyphonic ring tones, adjustable via OSD
- possibility to trigger max. 10 internal calls and max. 10 control functions with nomination / can be adjusted with configo™
- floor video function
- ring tone volume can be adjusted via OSD
- brightness, contrast, color saturation can be adjusted via OSD
- max. 10 short messages can be received and displayed
- audio and video privacy function as well as automatic call cut-off

buttons
- blue door release button
- speech button for hands-free talking resp. reversing key speaking/hearing when simplex communication is activated
- call OFF button with optical indication by red LED
- image button to switch ON the image resp. to switch between different cameras
- image button button to operate the central image buffer FVM1000
- 1 functions key with optical indication, ex works: assigned with control function / alternate allocation can be activated: internal call, door release automatic, call diversion, control function menu or call up internal call menu / adjustable with configo™
- menu button to activate, control the OSD menu
- 4 cursor buttons for OSD navigation, adjustment and camera control

LED indication functions
- optical indication of incoming calls
- optical indication sensor and door release automatic / call diversion
- optical indication of a busy line in case of an existing communication
- optical indication of the ring tone mute by red LED
- optical indication of unread short messages
- optical indication image buffer is activated / stored images available
- optical operation and error indication, blue (can be switched off)

connections
- connection for floor push button within the device
- external floor camera (C-terminal)

Mounting and installation

Install the lower cover

> **!** **Attention!**
> The video indoor stations have to be installed and disassembled only without voltage!

> **!** Ensure that the screws are not over tightened when installing the surface- / flush-mount box on uneven ground. If the screws are over tightened the surface- / flush-mount box could deform. Then, it is possible that the device cannot be installed correctly.

Mounting height

For an optimal viewing angle we recommend a mounting height of 1.6 meter (top edge of the device above the floor).

1 Fixing the surface-mount box

- Insert the lines through the cable gland.
- Fix the surface-mount box with suitable screws to the wall.
  Ensure the correct position: The arrow must face upwards!

arrow for orientation

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a
b
E
P
M
V1
V2
C

surface-mount box

1

2

3

attachment holes

cable gland

cable compartment (height ca. 10 mm)

connector socket

!

support plate (4 x)

connection cable of the front panel unit
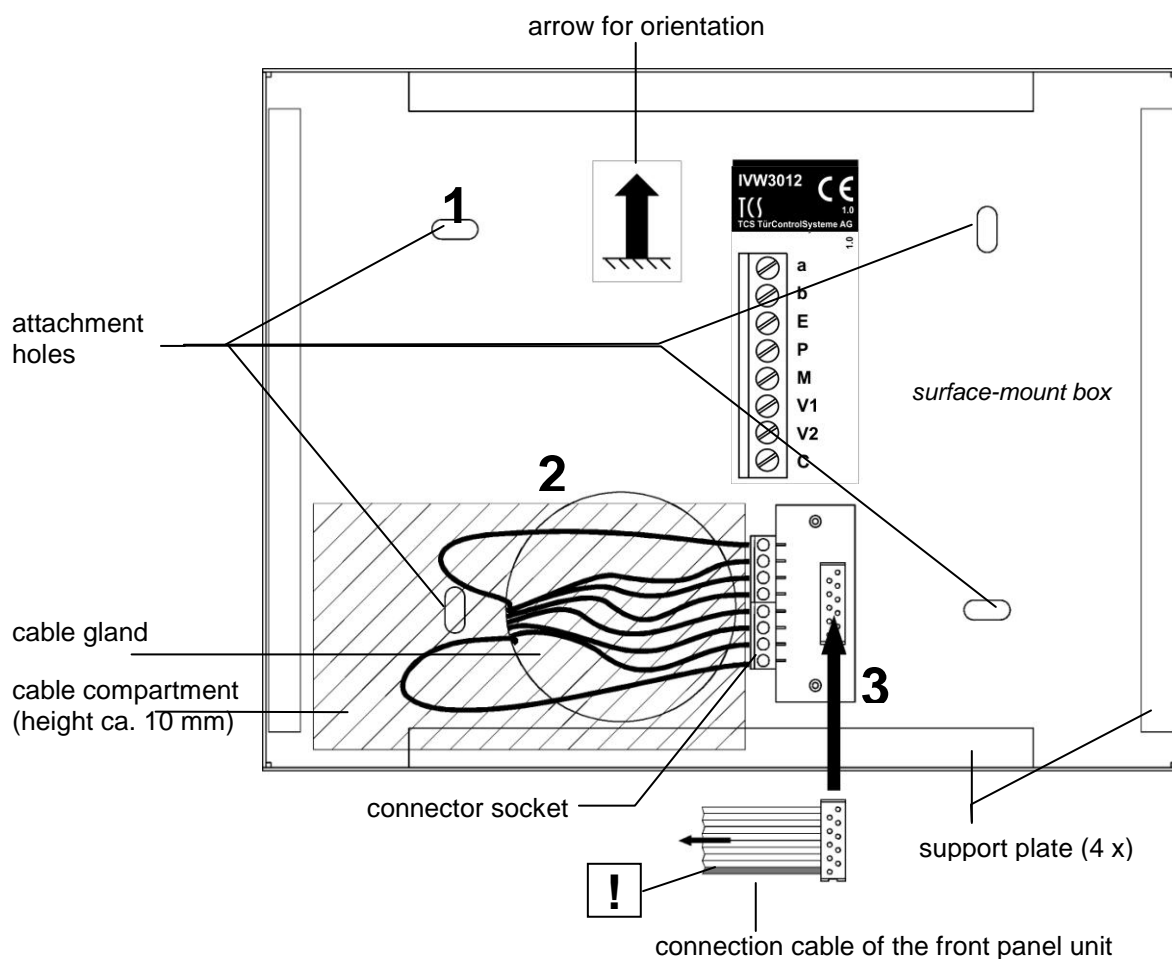
1 Fixing the flush-mount box

- Insert the lines through the cable gland.
- Fix the flush-mount box with suitable screws to the wall or in the cavity wall. Ensure the correct position: The arrow must face upwards!
- The flush-mount box should be flush with the wall.
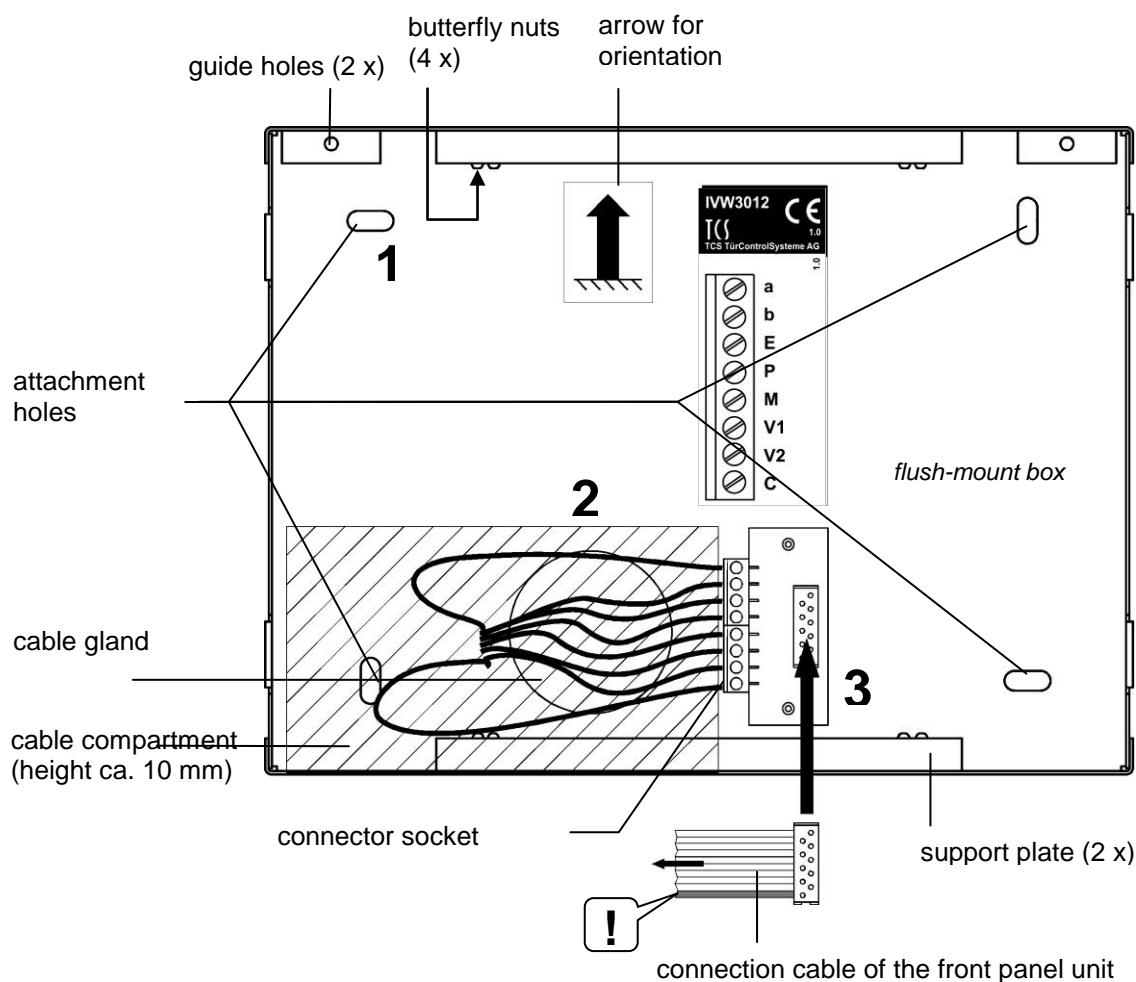
guide holes (2 x)   butterfly nuts (4 x)   arrow for orientation

IVW3012 CE
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a
b
E
P
M
V1
V2
C

flush-mount box

attachment holes

1

2

3

cable gland

cable compartment (height ca. 10 mm)

connector socket

support plate (2 x)

!

connection cable of the front panel unit

2 Connecting the lines

> **!** Use a suitable small screwdriver to connect the lines and to avoid damaging the device.

- Strip insulation of the line ends.
- Connect the lines according to the connecting diagram (see also labeling at the type label).

3 Connecting the components

- Surface-mount box / flush-mount box and front panel units have to be connected before the assembling by a ribbon cable, which is located at the front panel unit.
- Insert the free connector into the connector socket in the surface-mount box / flush-mount box. Follow the color coding of the lines**!** (see illustrations above)

4 Fixing a front panel unit onto a surface-mount box

Surface-mount box and front panel unit are held together by 4 strong retention magnets. When fixing the front panel unit to the surface-mount box, use the following procedure:

- Take care that the connection cable and the ribbon cable are placed carefully in the cable compartment to avoid damaging the device.
- Fix the front panel to the the lower support plate.
- Press the front panel unit onto the surface-mount box until it is safely attached and all edges are flush with the surface-mount box.

4 Fixing a front panel unit onto a flush-mount box

Flush-mount box and front panel unit are held together by 4 strong retention magnets. When fixing the front panel unit to the flush-mount box, use the following procedure:

- Take care that the connection cable and the ribbon cable are placed carefully in the cable compartment to avoid damaging the device.
- Place the front panel unit with the guide pins into the guide holes of the flush-mount box.
- Press the front panel unit onto the flush-mount box until it is safely attached and firmly positioned against the wall.
- If the flush-mount box is lowered to deep into the wall or if the front panel unit is not positioned flush against the wall, the height of both surface plates can be changed:
  - Loosen the butterfly nuts a little bit.
  - Change the position of the support plate.
 - Then tighten the butterfly nuts again.

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Disassembling the device

surface-mounted devices

- Hold the front panel unit with both hands.
- Pull it carefully off the wall.

| **!** Make sure that the ribbon cable is not damaged. |

flush-mounted devices

7 x 1,2

4 retention magnets
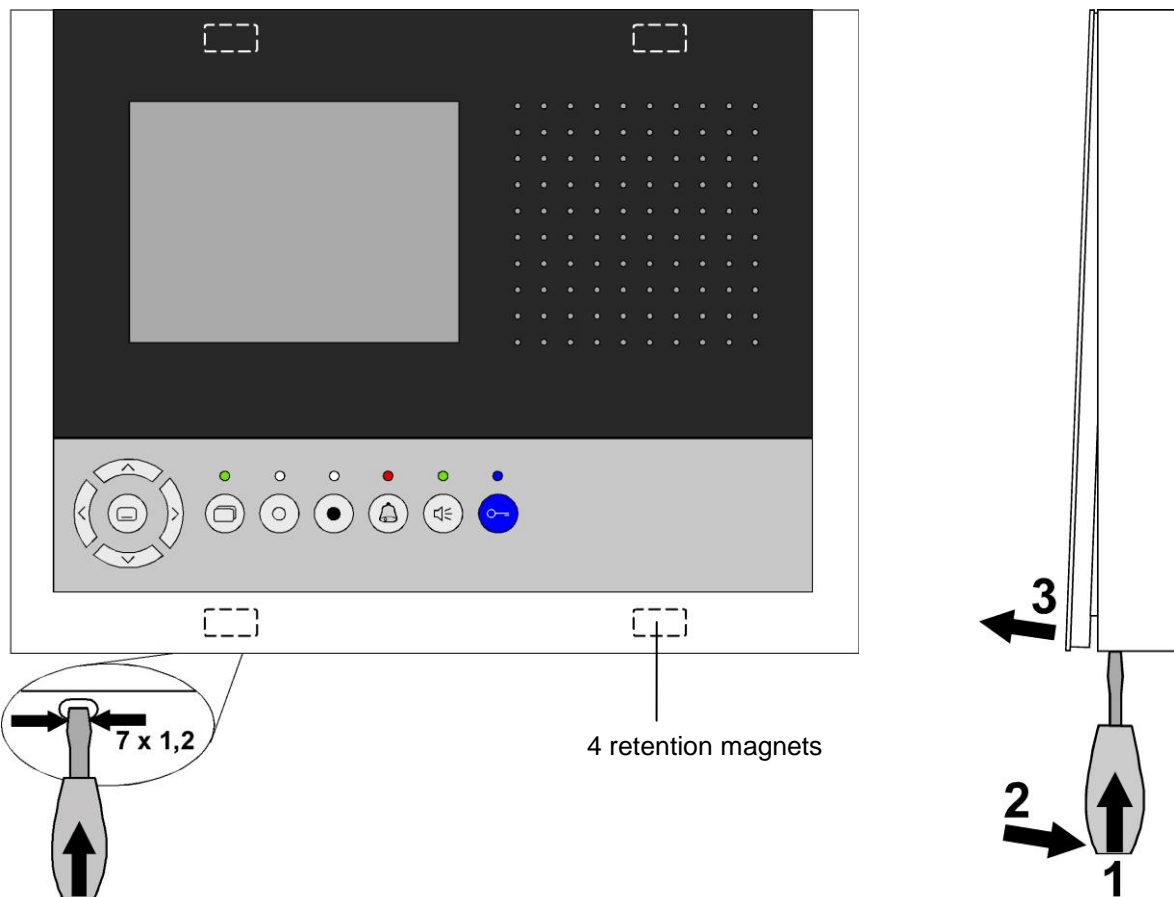
- There is an oval release opening at the underside of the device. Insert a short screw-driver with around 7 mm width into this opening (**1**).
- Hold the front panel unit with both hands.
- Press the screwdriver handle slightly to the wall (**2**).
- The front panel unit can be removed now (**3**).

| **!** Make sure that the ribbon cable is not damaged. |

wiring example
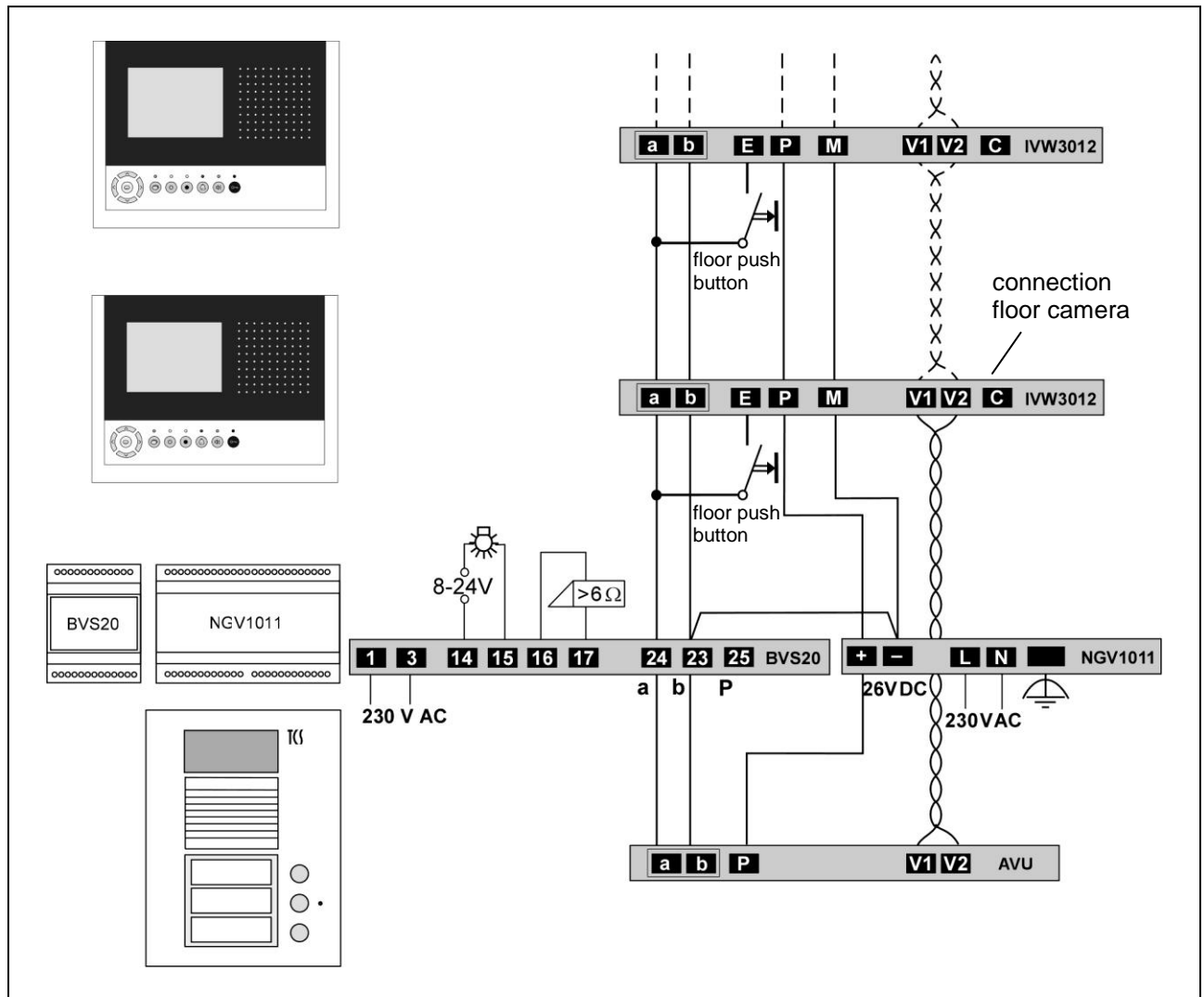
connection diagram

IVW3012
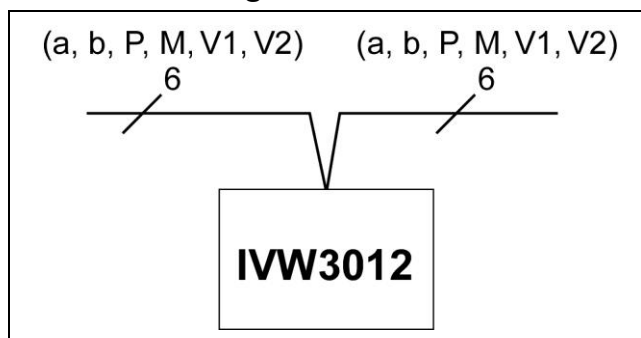
Note for LSA terminal points

!   Any forms of LSA terminal points cannot be used to install a TCS:BUS system.

Commissioning

⚠️ **First install the system completeley, then connect it to the power supply!**

!
- Install the devices of the system completely.
- Do not connect V1 and V2 with P-, a- or b-wire. When connecting the video wires V1 (+) and V2 (-) observe the polarity. If the video image is distorted after the commissioning, switch off the device and exchange the wires for the video signal.
- Check the a-, b- and P-wire against each other on short-circuit.
- Switch on the mains voltage.

Error detection and indication

Errors are signaled optically when detected and acoustically on keystroke: single error tone and permanent flashing of the operation indication. When presssing any button of the video indoor station IVW3012 the error tone sounds again. The optical error indication stays active until the error is corrected.
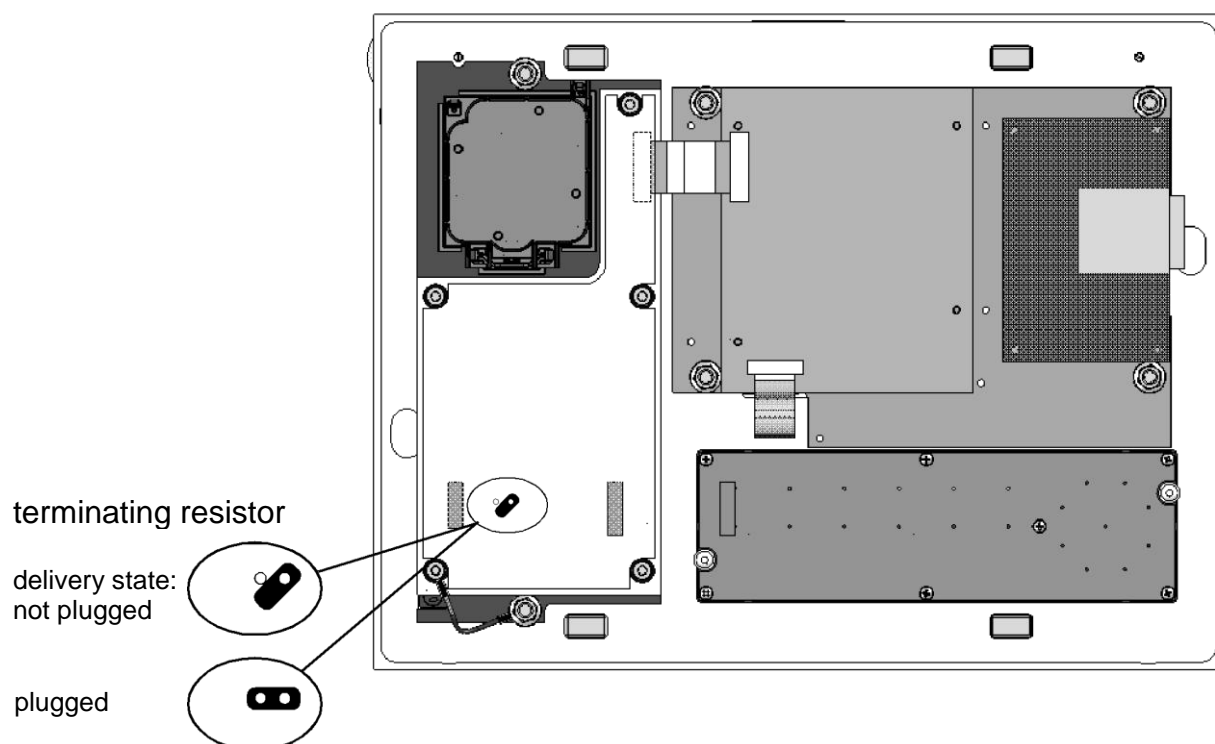
error causes	indication error mode	error tone	solution
a- and P-wire are mixed up or short-circuited	blue operation LED flashes	))) ▬▬▮▮▮	exchange a- and P-wire or remove short-circuit, device enters stand-by mode again
a- or M-wire: not connected or not supplied		))) ▬▬▮▮	connect a- resp. M-wire or check power supply, device enters stand-by mode again
button clamps (pressed longer than 15 sec)		))) ▬▬▮	release button at IVW3011 or floor push button, device enters stand-by mode again

Install the indoor station as end device

The indoor station is at the end of a strand or the only device on the strand:
Open the device. See *Disassembling the* device, page 12.
- Put on the terminating resistor horizontally onto both contacts.
  Delivery state: terminating resistor *not plugged* *(diagonal, plugged to one contact. Close the device).

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front panel unit, inside

terminating resistor

delivery state:
not plugged

plugged

* *terminating resistor not plugged:*
 For converting a device, the jumpers are retained by plugging each of them to only one of the contact pins.

Configuration

Factory Pre-settings

AS address dependent image activation

If front-door stations without camera are also installed in systems with IVW3011 video front-door stations, the video image is not activated, if a call from a front-door station without camera is incoming.
To guarantee this function, the possible AS addresses are separated in two sections:

AS address 0 – 31*	reserved for video front-door stations	image is activated in case of a door call (from max.16 video front-door stations)
AS address ab 32*	free, for front-door stations without camera	image is not activated in case of a door call

*) The video AS border can be changed with the configuration software configo^{TM}.

Note:
The AS addresses of the front-door stations have to be allocated with Service Device or configuration software configo^{TM}.

Preset times

communication time	max. 2 min
remaining communication time after pressing the door release button	around 4 sec
image switching time	80 sec
blinking period of the communication indication (LED, green), if "video / communication channel is busy" when pressing the speech or the image button	6 sec blinks 3 x
internal standby time	around 30 sec
floor door release time	around 30 sec
timeout OSD menu (after the last keystroke)	10 sec
timeout OSD symbols in the live image (after pressing the speech buttons)	3 sec

Configuration options

function	menu	TCSK-01	configo™ *as of version 1.6.*
adjust ring tone volume	x	–	x
ring tone selection for 2 door calls, sub door calls, internal calls and floor call	x	–	x
adjust image parameter: brightness, contrast, color saturation	x		
reset to factory setting	x	–	x
assign function key with light, internal call, door release automatic, call diversion or control function 8	–	x	x
parallel allocation	–	x	x
block ring tone output	–	x	–
call up control function menu or internal call menu with the function key	–	–	x
allocate / delete floor door release function	–	–	x
allocate / delete automatic hands-free talking after internal call	–	–	x
define video AS border and audio AS border	–	–	x
image activation in case of an incoming floor call	–	–	x
define internal call destinations (by sending the sender serial number) *(source display at IMM1100, IMM2100 or IVW3011 / IVW3012 possible)*	–	–	x

unlimited communication time *(limit is set only by the device to which the communication is established)*	–	–	x
fixed simplex communication	–	–	x
simplex communication to the front-door station	–	–	x
permanent image activation	–	–	x
receiving / blocking short messages	–	–	x

Programming of the function key with the Service Device

The indoor station is acting as an intercom simplex communication device.
Use the orders "9" to configure comfort intercom simplex communication devices (see *product information Service Device*):
A programming with the orders "9" has to be initiated once with the order *95#ser. no.#.
Then the programming of the function key has to be realised with the Service Device.

initiation	✳ 95 # Ser.-Nr. #
call diversion	✳ 90 # Ser.-Nr. # ZielSNr. #
door release automatic	✳ 91 # Ser.-Nr. #
internal call	✳ 92 # Ser.-Nr. # IntSNr #
control function 8	✳ 93 # Ser.-Nr. #
restore light switch function	✳ 94 # Ser.-Nr. # 0 #
parallel allocation **Note:** Deactivating the parallel allocation means the automatically allocation of the serial number 0.	✳ 99 # Ser.-Nr. # ParSNr #

ser. no.   =   serial number of the indoor station which has to be newly configured
targetSno.=   serial number of the target indoor station to which the call is to be redirected
intSno.   =   serial number of the target indoor station to which internal calls are made
ParSno.   =   serial number of the indoor station, to which the indoor station which hast o be newly configured is allocated to

Help function

For facilitating the operation of the device, symbols are faded in in the right upper corner when the live video image is activated or the main or sub menus are called. The symbols indicate the buttons that are available in the corresponding screen (e.g. menu *control functions*). The fade-in automatically ends after 5 seconds or after the first keystroke.

symbol	meaning
‹ ˆ › ˅	navigation buttons RIGHT, LEFT, UP and DOWN can be used for controlling
‹ ›	only the navigation button RIGHT, LEFT can be used for controlling
ˆ ˅	only the navigation buttons UP, DOWN can be used for controlling
☐ OK	the menu button can be used to confirm
O ESC	the function key can be used to abort
˅ 4s	the navigation button DOWN can be pressed and hold for 4 sec

Setting the menus internal calls and control functions

Entries into the menus. These points can be entered with the configuration software configo™ via a limited character set and also uploaded into the device.
Each entry of the control function menu can be processed in 3 different ways:

Simple

With each triggering the same control protocol is sent. There will be no indication for the state of the device that is switched. The serial number and the control function number can be configured as parameter. Thus, it is also possible to automatically generate the own serial number of the video indoor station IVW3012.

ON/OFF

Two different control protocols with the same serial number are sent alternately. One control function number is assigned to switch-on and the other to switch-off. Via two different symbols, which appear alternately in front of the list entry, the state, which is switched last, can be seen. Both control function numbers and the serial number can be configured, if required, the device-individual serial number can also be generated.

EnOcean

This function is realised identically to the IMM1100. Thus, an EnOcean radio interface FBI4200 can be connected. It can also be used to display switching states, without influencing it. When triggering the list entry, a control function with a configurable serial number is sent. The control function number can be freely selected (0 to 200 possible). Independent from sending the protocol, receiving the control protocols with the configured serial number causes a switch over between the states. As shown under b), this is displayed by symbols in front of the list entry. Thereby, the control function numbers 01 and 03 generate the state OFF and the numbers 02 and 04 the state ON.

Receiving short messages

A short message can be distributed to the indoor stations with the help of the SMS protocol, when sent to a FBI4410.
The video indoor station IVW3012 is able to receive short messages via the TCS:BUS. Further it can store and display short messages, if required.
Max. 10 short messages can be stored.
The length of the short message is max. 95 signs, whereas line breaks or other control signs (e.g. ESC) are included. Per message max. 3 line breaks are allowed or respectively 4 display lines. If there are no line breaks in the message, there will be an automatic line break after max. 24 signs per line at the last space in the line.
First, all existing short messages are displayed in the menu *short messages*. New and unread messages are marked with an exclamation mark. The exclamation mark is followed by the first 20 signs of the message content as choice text. If the message is longer than 20 signs, the choice text ends with *…* (three points).

See also *product information GSM-interface FBI4410*.

Operation

General

- Navigation in the OSD menus, in the image buffer indication and in the live image is realised with the four navigation buttons RIGHT, LEFT, UP and DOWN.
- The OSD menu *main menu* can be switched on if no live image is displayed and the indoor station is in stand-by mode, which means there is no voice communication and no incoming door call.
- Symbols in the OSD menu are only displayed if the respective function has been configured. When in factory setting, not all available functions are configured.
- The live image is switched on by pressing the image button or speech button or by receiving a door call.
- The OSD menu or the image buffer indication is switched off automatically after 10 sec, if no button is pressed any longer. Or: Press the function key to end the menu.
- The live image is switched off after 80 sec without pressing any button, when ending the voice communication or if the video channel is used by another device (not when voice communication is active).

Symbols and their meaning

symbol	meaning	symbol	meaning
$\Box^1$	ring tone selection for door calls <= AS-border	0...9	indication of adjusted values as number
$\Box^2$	ring tone selection for door calls <= AS-border	🔔	marking for call set-up menu

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	ring tone selection for internal calls		zoom mode activated
	ring tone selection for floor calls		automatic image storage activated; menu image buffer active
	ring tone selection for sub ring tone 1		menu send internal call
	ring tone selection für sub ring tone 2		menu send control function
	ring tone selection für sub ring tone 3		menu to set time of the image buffer
	ring tone selection für sub ring tone 4		main menu
	ring tone volume		menu short messages
	setting contrast		screen to read a short message
	setting brightness		deleting short messages
	setting color intensity		menu to set the date
	marking of the camera for fade-in of the AS-address		menu to set the time
	call diversion activated		delete image buffer (all stored images)
	door release automatic activated		animated hourglass as progress indication
	ring tone stopper activated		no images in the FVM1000

Setting the ring tone parameter

Call up the menu ring tone parameter (in stand-by mode)

- Press the menu button, the menu *settings* appears.
- Press the navigation button RIGHT (or LEFT) and

  go to the symbol *ring tone parameter* 🔔.
- Press the menu button again to call up the menu ring tone parameter.
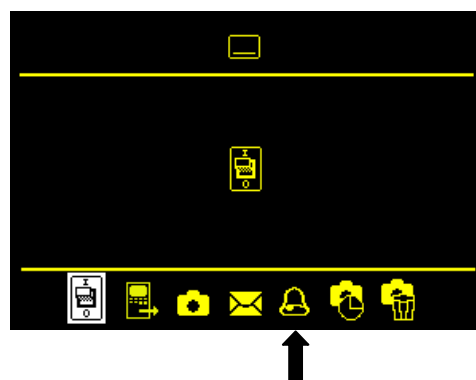
| symbol	meaning
◢	ring tone volume
🚪¹🚪²	ring tone selection for door calls ≤ audio AS-border, door calls > audio AS-border
🚪↘	ring tone selection for floor calls
▦↵	ring tone selection for incoming internal calls
👤¹👤²👤³👤⁴	ring tone selection for sub door call 1, 2, 3, 4
0, 1, 2, …	indication of the adjusted value

Setting the ring tone volume

- Press the navigation buttons RIGHT (or LEFT) and go to the symbol *ring tone volume* ◢.
- Press the navigation buttons UP or DOWN to select the volume. The level of the ring tone volume (e.g. 4) is displayed (1 to 4).
  When selecting a ring tone, the ring tone sounds immediately.
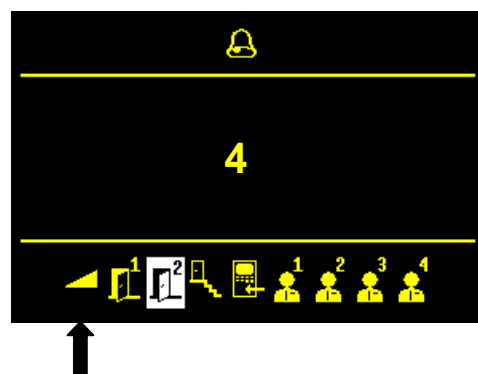
Ring tone selection

- Press the navigation button RIGHT (or LEFT) and go to the symbol *ring tone selection*

  (e.g. for door 2) 🚪².
- Press the navigation buttons UP or DWON to select the ring tone. The number of the ring tone (e.g. 11) is displayed.
  When selecting a ring tone, the ring tone sounds immediately.
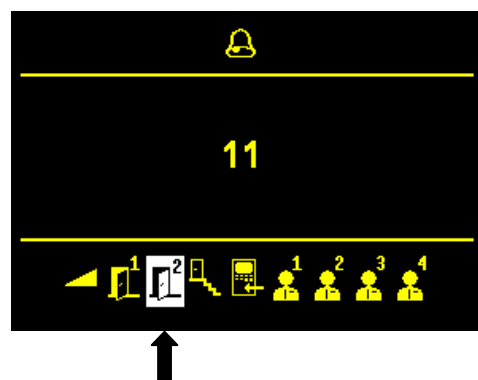
Setting the image parameter

Symbols in the live image

- The symbols in the live image are displayed for 10 sec when activating the image (after pressing the image button or after receiving a door call) or for 3 sec after pressing the speech button.
- Press the image button or the speech button to switch on the live image.

symbol	meaning
👆 05	image from the camera with AS-address (e.g. with AS-address 05)
🔍	zoom mode activated
🔔	ring tone mute
🔓➝	door release automatic or call diversion activated
📷	image buffer activated
🔓	door release automatic activated

Call up menu image parameter

- Press the menu button. The menu for *settings* is displayed.

symbol	meaning
◑	contrast
☼	brightness
🎨	color saturation

Set contrast, brightness and color saturation

- Press the navigation button RIGHT or LEFT to switch to the next parameter.
- Press the navigation button UP or DOWN to change the parameter value.
  The change is displayed immediately in the bar chart and visible in the live image.

Reset to factory setting

All manual adjustments that have been made can be reset to the values ex works.
- Press the navigation buttons UP and DOWN simultaneously for 8 sec.

Selecting the camera by stepping through with the image button

- Press the image button or the speech button if necessary to switch on the live image of the camera selected last. When receiving a door call, the live image from the calling video front-door station (camera) is activated.
- Press the image button again to switch over to the next video front-door station or camera.

Activate / deactivate zoom mode

The zoom mode can only be activated if a camera, with zoom function, is connected.

- The zoom mode can be activated, if the live image is displayed: after an incoming door call or after pressing the image button or speech button.
- Press the image button longer than 4 sec to activate the zoom mode.

  The symbol *zoom mode activated* 🔍 is displayed in the live image.
- Press the navigation buttons UP or DOWN to enlarge or reduce the image.
- Press the navigation buttons RIGHT or LEFT to deactivate the zoom mode or automatic deactivation after 4 sec.

Navigation within the image with the four navigation buttons

A camera with swivel function can be controlled with these buttons.

External image buffer

Images (or image sequences) can be stored with the external image buffer FVM1000. The number of images per device is limited to 64, before the oldest image will be overwritten.

- Make sure that the video indoor station IVW3012 is ready for operation.
- Adjust the operation mode to comfort **at the FVM1000**.
  End the programming mode.
- Thus, the video indoor station IVW3012 recognizes the FVM1000, an acknowledgement sounds.
- The symbols of the image buffer for *automatic image buffering activated*📷, *time setting* 🕐 and *delete image buffer* 🗑 are visible in the main menu.

Note: The automatic image buffering is not activated.
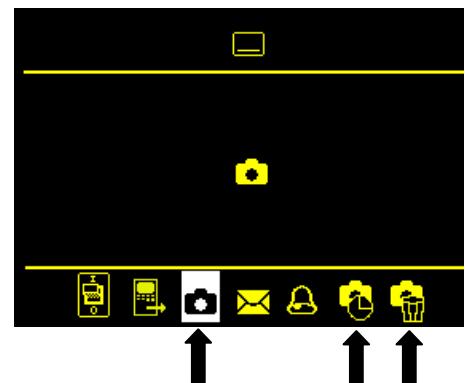
Activate / deactivate the automatic image buffering

- To **activate** the automatic image buffering, press the button image button until an acknowledgement tone sounds (longer than 4 sec) and the image buffer indication lights yellow.

  The symbol *image buffer* 📷 is displayed in the live image.

When receiving a door call, an image is stored automatically.

- To **deactivate** the automatic image buffering, press the image buffer button until an acknowledgement tone sounds (longer than 4 sec) and the image buffer indication turns off. The symbol *image buffer* 📷 is faded out of the live image.

Store an image manually

When in image buffer mode, an image can be stored manually.
- Press the image buffer button shortly to store an image.
- The image is displayed briefly and the recording time is faded in.
- The image buffer indication is blinking until the image has been seen.

View stored images

- If the image buffer indication is blinking, new images were stored.
- Press the image buffer button to display the picture from the image buffer. Or press the menu button.
  Select the symbol *image buffer* 📷 with the navigation buttons and confirm the selection by pressing the menu button.
  The picture of the image buffer is displayed.

- Browse through all new stored images with the navigation buttons LEFT or RIGHT.

Gespeichertes Bild mit Datum, Uhrzeit, Bild Nummer von insgesamt gespeicherten Bildern

Delete a stored image

- Press the menu button. Select the symbol *image buffer* 📷. Confirm the selection by pressing the menu button.
- Select the image which is to be deleted.
- Press the navigation button DOWN for 4 sec. An acknowledgement tone sounds. The image will be deleted, the image stored last is displayed.
- If all stored images for the allocated serial number in the FVM1000 are deleted or if no images are available when calling up the menu, the illustrated screen (see picture to the right) is displayed for 4 sec. Then the main menu appears again.
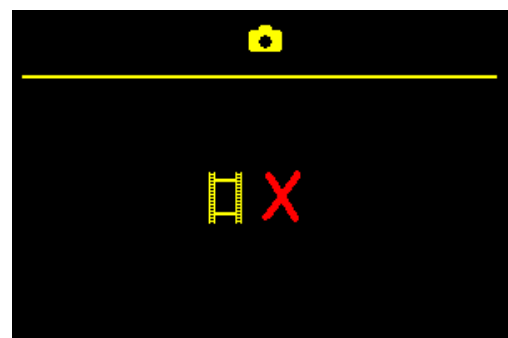
Delete all stored images

In the external image buffer all images, allocated to the indoor station, can be deleted completely.

- Press the menu button. Select the symbol *delete image buffer* .
  Confirm the selection by pressing the menu button.
- Depending on the number of images, the deleting process can take a few seconds. During this time, an hourglass is displayed on the screen.

Set time time and date of the image buffer

This dialog is only visible if in an external image buffer the usage of the external image buffer and the permission to adjust time and date is released in EEPROM.

- The indoor station is in stand-by mode.
  Press the menu button. The main menu is faded in.
- Select the symbol *time setting image buffer* with the navigation button RIGHT.
- Confirm the selection by pressing the menu button.
  The menu *date setting* appears.
  The marked number can be changed with the navigation buttons UP or DOWN.
  Switch over to the next position by pressing the menu button.

- If the position on the far right is marked, pressing the menu button again leads to menu *time setting*.
- The marked number can be modified with the navigation buttons UP or DOWN.
  Switch over to the next position by pressing the menu button.
- By pressing the menu button again the menu-display is switched off.
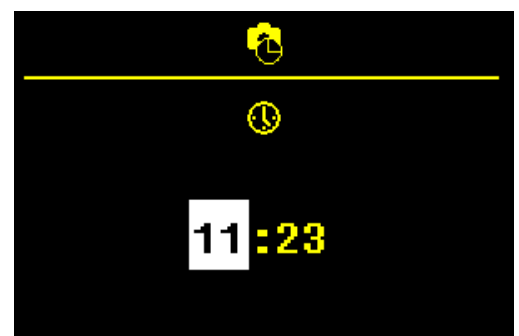
Internal calls

Send an internal call

Max. 10 internal calls can be defined with the configuration software configo™ .

- Press the menu button. Select the symbol *send internal call*. Or call the menu with the function key, if the device is configured accordingly.
- Select the required call destination with the navigation buttons UP or DOWN.
- Trigger a call by pressing the menu button.
  An acknowledgement tone sounds. The OSD is switched off (or switches back to the live image).
- If the call is accepted at the called indoor station another acknowledgement tone sounds.

Receive an internal call

- If the indoor station receives an internal call, whose sender includes the individual serial number, this number is displayed.
  If the name of the calling indoor station is programmed (with the configuration software configo™), the name is displayed.

Control functions

Send and display s control functions

Max. 10 control functions can be defined with the configuration software configo™.
Triggering a control function can have three different effects:
- A control protocol is sent (no information on the menu)
- Two different control protocols are sent alternating (red/green point in the menu). The color of the point indicates the triggered switching process, but not the actual condition of the device that is to be switched.
- One control protocol is sent and the execution of the switching process is displayed in the menu by a red/green point.

- Press the menu button. Select the symbol *send control function*. Or call up the menu with the function key, if the device is configured accordingly.
- Select the required function with the navigation buttons UP or DOWN.
- Triggering by pressing the menu button. An acknowledgement tone sounds. The OSD is switched off after 5 sec (or switches to the live image).

Short messages

Reading short messages

After receiving a short message, the LED *indication short messages* blinks. If the device is in stand-by mode access to the menu *short messages* is granted simply by pressing the *image button*. Than the blinking LED turns off immediately, the image button is again allocated with the function *image button*.

- Or press the menu button. Select the symbol *short messages*✉.
  New, unread messages are marked with an exclamation mark.
- Select the required message with the navigation buttons UP or DOWN. Confirm the selection by pressing the menu button.
  Now you can read the message. The message includes text, sending date and time.
  Select the symbol *short messages* ✉, confirm the selection by pressing the menu button to get back to the menu short message.

Delete short messages

Read short messages can be deleted by the user. If more messages are received, as it is possible to store, the oldest messages are overwritten automatically.

General information on the conduit in TCS video systems

6-wire operation

The 6-wire operation is the standard operation mode. Two separated ground lines (b and M) are used in video operation. The conduit depends on the structural conditions and is only limited by the length.

- Observe when selecting the length of the lines: a loop resistance a-b and M-P of max. 8 Ω has to be observed (table 1).
- In case of loop resistance > 8 Ω: plan multiple wiring of the strands (double twisted lines).
- Wiring optional in strand or star structure.
- Do not use more than 20 video indoor stations per strand. For systems with more video indoor stations use video distributors (FVY1200, FVY1400).
- Up to 64 front-door stations (16 of them video front-door stations) and almost an unlimited number of indoor stations can be connected polarity-free (a/b; only in 6-wire operation) in one system. In this case, a suitable power supply and control unit has to be used.

Table 1: loop resistances

cable length a-b/ M-P	line diameter	
in m	0.6 mm	0.8 mm
	loop resistance in Ω	
10	1.28	0.71
20	2.55	1.43
30	3.83	2.14
40	5.10	2.86
50	6.38	3.57
60	7.65	4.29
70		5.00
80		5.71
90		6.43
100		7.14

Principle loop resistance

None of the devices (AS, IS or FE) is to be installed each further than 20 Ohm away from the power supply control unit (VS).
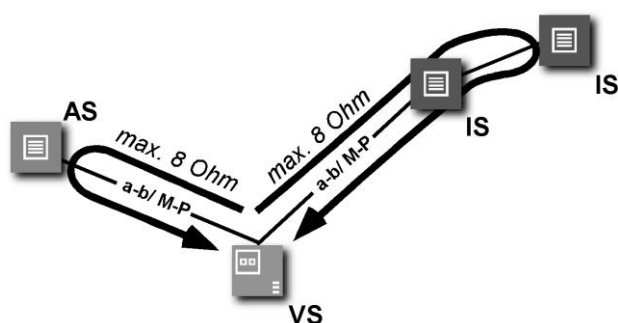
8 Ohm:

max. 65 m distance AS-VS at 0.6 mm diameter
max. 115 m distance AS-VS at 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.
- Measure the resistance at a/b of the strand of the last IS or AS.
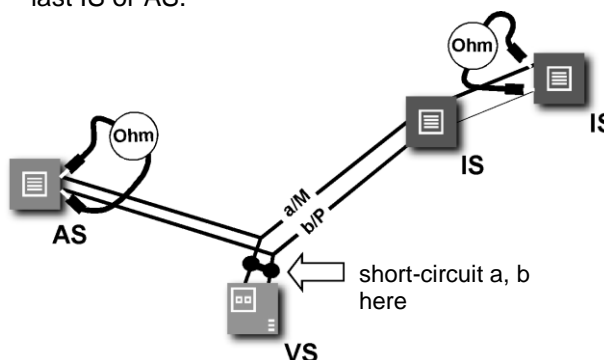
AS	front-door station
VS	power supply and control unit
IS	indoor station
FE	extended function

Max. number of IVW3012 in 6-wire operation

small and medium-sized systems	max. number of IVW3012
VBVS05	6
larger systems	max. number of IVW3012
BVS20 + NGV1011	30

Note: The number of the front-door stations that can be connected is limited and is described in their product information!
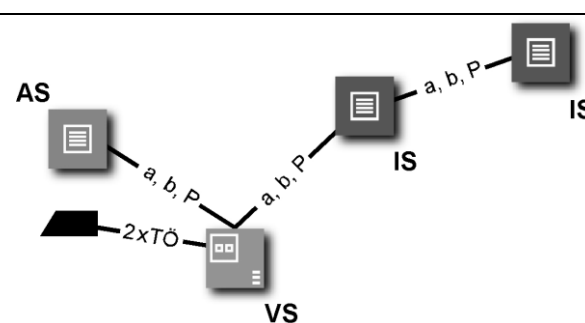
AS	front-door station
VS	power supply and control unit
IS	indoor station
TÖ	door opener

Technical data

supply voltage:	26 V DC ± 8 %
housing: surface-mount/flush-mount-box:	steel, powder-coated / zinc-coated
front-plate:	aluminium, anodised and acrylic glass

dimensions

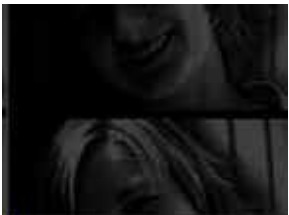|		
housing:		H 215 mm x W 280 mm x D 30 mm
mounting	surface-mount:	H 215 mm x W 280 mm x D 34 mm
	flush-mount:	H 215 mm x W 280 mm x D 6 mm
weight	surface-mount device:	2045 g
	flush-mount device:	1960 g
acceptable ambient temperature:		5 °C to 40 °C
input current:		$I(a) = 0.4$ mA, $I(P) = 16$ mA
max. input current:		$I(Pmax) = 240$ mA
video mode		TFT-Color-Modul
screen diagonale:		14.5 cm (5.7")
resolution:		640 x 480 pixel, RGB
video signalling:		symmetrical, 1 Vss FBAS,

Video 6-wire technique necessary!

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 color saturation control.
	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 resis-tance at the station or active ex-tended 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 re-sistor
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.
		The connection contacts are not fixed correctly.
	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 compo-nents 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 ne-cessary 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.	Die V1-Ader des Video-Busses hat einen Schluss auf die P- oder die b-Ader. Dadurch fließt ein unzulässig erhöhter Strom. Bitte die Verkabelung auf Schlüsse überprüfen.
		The camera is defect. The camera FVK2200 (color variant of VKM10) is defect. Around. 2% of all cameras has this defect. Changing the camera corrects the problem.

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.

Conformity

CE Download declarations of conformity from www.tcsag.de, downloads, trade information.

Information on disposal

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

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

Warranty

We offer a **simplified processing** in case of warranty for electrician.
Note our **conditions of sale and delivery**, download from *www.tcsag.de*, downloads, trade information and included in our actually price list.
- Please contact us: **hotline@tcsag.de.**

Service

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