



Product information

PTZ camera interface FBI4500-0100

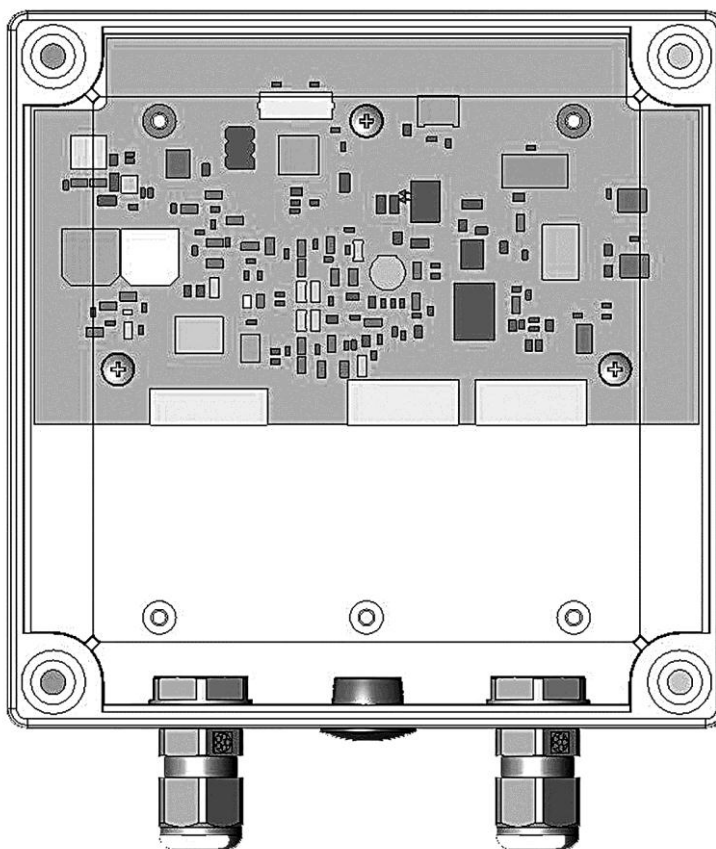


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Scope of delivery

1 x FBI4500-0100
Product information

Safety instructions

General safety regulations

! Attention! Mounting, installation, commissioning and repair of electronic devices have to be carried out only by qualified electricians. The latest accident prevention regulations must be observed.

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

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

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

Installation – protective measures

! With suitable measures to protect against lightning, it has to be ensured that a voltage of 32 V DC is not exceeded at the connections a, b, E, P, M, V1, V2, V, ⊥, +, –.

Terms

6-wire operation	Standard operation mode for TCS video systems, where two separated ground wires (b and M) are used.
5-wire special operation	If there are only 5 wires available for the device, so that the M-wire cannot be connected, a 5-wire special operation is possible.
PTZ camera	If a PTZ camera (Pan Tilt Zoom) has been installed, the image section shown on the display can be changed by panning horizontally, tilting vertically as well as by zooming in and out.
preferred position	Preferred camera setting. The position is stored in the camera and can be configured in the PTZ camera interface via the configuration software configTM (as of version 1.7.x). By specific actions at the TCS:BUS [®] (door call, control function) the positions can be controlled.
On-Screen-Display (OSD)	Dropdown menu which is displayed on the screen and can be activated by pressing the menu or image button of the device.

Intended use

- The PTZ camera interface FBI4500-0100 is a device to connect PTZ cameras of other manufacturers to the TCS:BUS[®] video system.
- The device is suited for surface-mount.

- !**

 - Using the PTZ camera interfaces is only useful in combination with a camera, which can be controlled by the PTZ control commands.
 - To control the camera, a video indoor station with control keys (resp. navigation buttons) LEFT, RIGHT, UP, DOWN is necessary (e.g. series IMMx3x0, ecoosTM IVW22xx, skyTM IVW2221 or skylineTM IVW3012).
 - Max. 16 devices and 16 cameras are permitted when using up to 5 video switches at one TCS:BUS[®].

Short description

Functional description

- The PTZ camera interface, connected to a PTZ camera, can be operated as stand-alone camera or allocated to a (video) front-door station at the TCS:BUS®.
- The device provides the video image of the connected PTZ camera via two-wire video signal.
- The interface controls the PTZ camera via a standard RS485 connection. Supported types of protocol: Pelco D, Pelco P and Samsung.

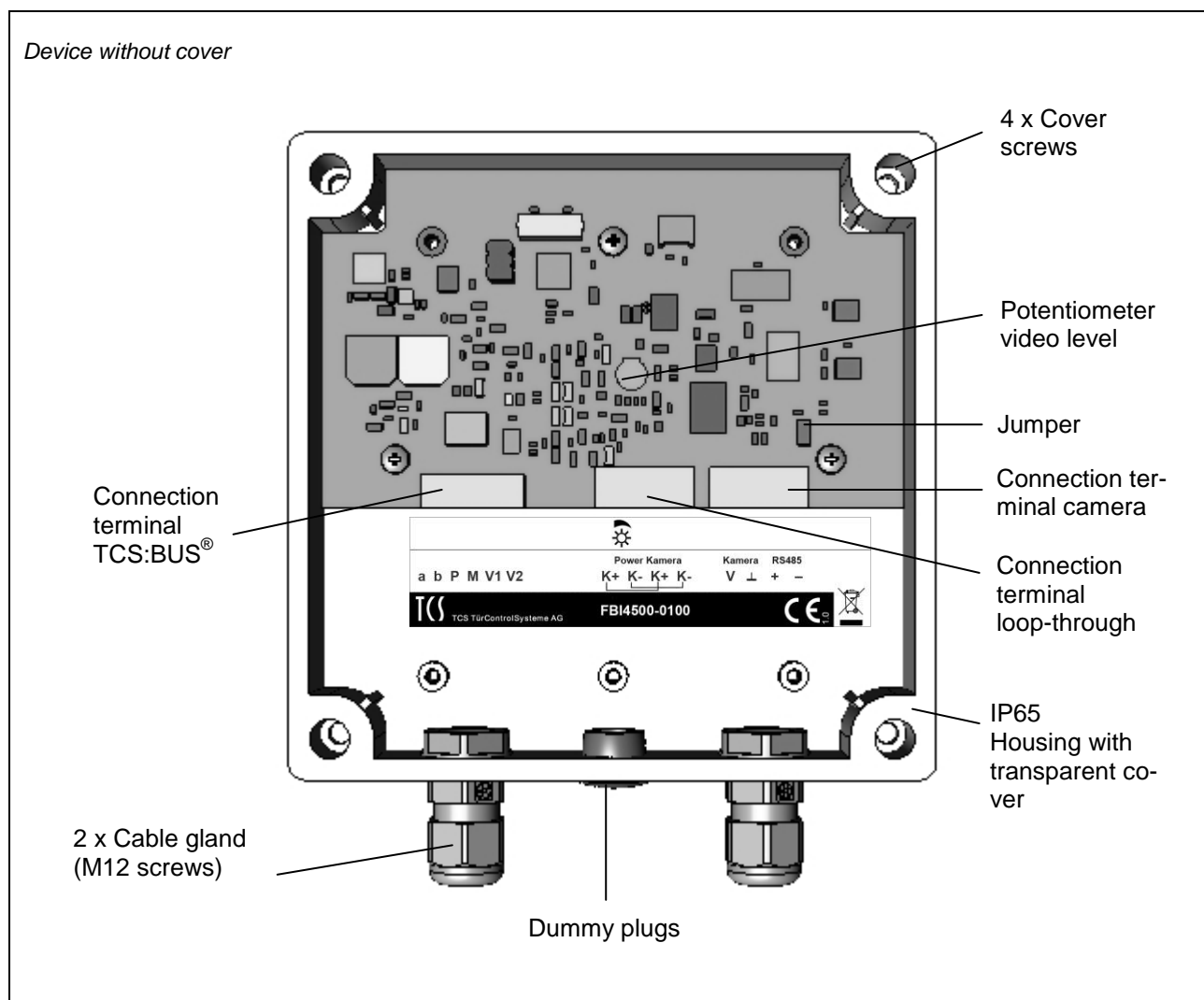
Functions at the TCS:BUS®

- By navigating with the control keys (resp. Navigation buttons) LEFT, RIGHT, UP, DOWN at the indoor station, a specific section of the image can be selected via a PTZ camera.
- With the protocol "topstitch" or with the "control function" preferred positions can be controlled.
- The configuration software configo™ supports the devices as of version 1.7.x.

Indication and operating elements

Potentiometer	<p>A two-wire video sender converts the asymmetric camera signal into symmetric signal, which can be used in the TCS video system. This can be displayed on all video indoor stations. With the potentiometer, the video level is manually adjustable:</p> <ul style="list-style-type: none"> • Turning right: increase the output level • Turning left: reduce the output level
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Device overview



Technical data

Input voltage (P-wire):	+26 V DC (power supply and control unit)
Housing:	plastics, transparent cover
Dimensions (in mm):	H 130 x W 130 x D 35
Weight	305 g
Degree of protection:	IP65
Acceptable ambient temperature:	-20 °C to +50 °C
Input current:	I(a) = 0.4 mA
Input current:	I(P) = 25 mA (stand-by)
Max. input current:	I(Pmax) = 40 mA
Video signal input:	75 Ohm, asymmetric 1 Vss FBAS
Output level (2-wire video signal):	-3 dB to +9 dB (manually adjustable)

6-wire technique necessary!

Installation

Installation location

- The PTZ camera interface is suitable for the inner and outer installation (housing IP65).

- | | |
|---|--|
| ! | <ul style="list-style-type: none"> • When installing the device outdoors, please observe that the cable gland (M12 screw connection) must be facing downwards! • Please observe the documentation of the camera manufacturer ! |
|---|--|

Open and close the housing

- Loosen the cover screws of the PTZ camera interface. Remove the cover.
- Use the lower cover to mark out the four attachment holes at the corners of the housing.

- | | |
|---|---|
| ! | Do not use the lower cover as drilling template as it may cause damage to the device! |
|---|---|

- Drill the marked holes and insert dowels into the wall if necessary. Screw the housing firmly to the wall.
- Guide the connection lines through the cable gland (M12 screws).
- Close the housing only after the installation and configuration.

Connect the lines

Connection lines

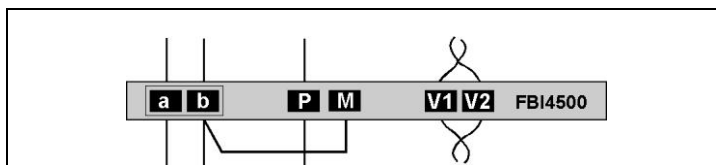
The connection of the connection line is attained by a M12 screw connection.

- Use only one cable with jacket, diameter 3.5 to 7 mm per screw connection.
- Cross-sections for connection lines

Connection TCS:BUS Permitted cross-section (diameter) Max. number of wires per terminal contact	0.32... 2.1 mm ² (Ø 0.3 ... 1.6 mm) each 2 x Ø 0.8 mm or 3 x Ø 0.6 mm
Connections camera Permitted cross-section (diameter) Max. number of wires per terminal contact	0.08... 1.3 mm ² (Ø 0.32 ... 1.3 mm) each 2 x Ø 0.8 mm or 3 x Ø 0.6 mm

5-wire special operation

5-wire special operation only with jumper from the b- to the M-wire in case of max. 3 devices per door communication system are permitted.



! The installation of a jumper between the b- and the M-wire is only permitted when observing several conditions. Regarding a solution for your special project, please contact our technical hotline.

Connect the camera

- Please observe the documentation of the manufacturer!

Voltage supply connection

- !**
- The voltage supply of the PTZ camera is not realised via the PTZ camera interface and not via the TCS:BUS[®].
 - The PTZ camera is to supply separately with a power supply unit which is suitable for the camera.
 - To connect the special voltage supply, the terminals *K Power Kamera* can be used in the FBI4500.

ATTENTION: The terminals *K Power Kamera* must not exceed 2 A / 26 V!

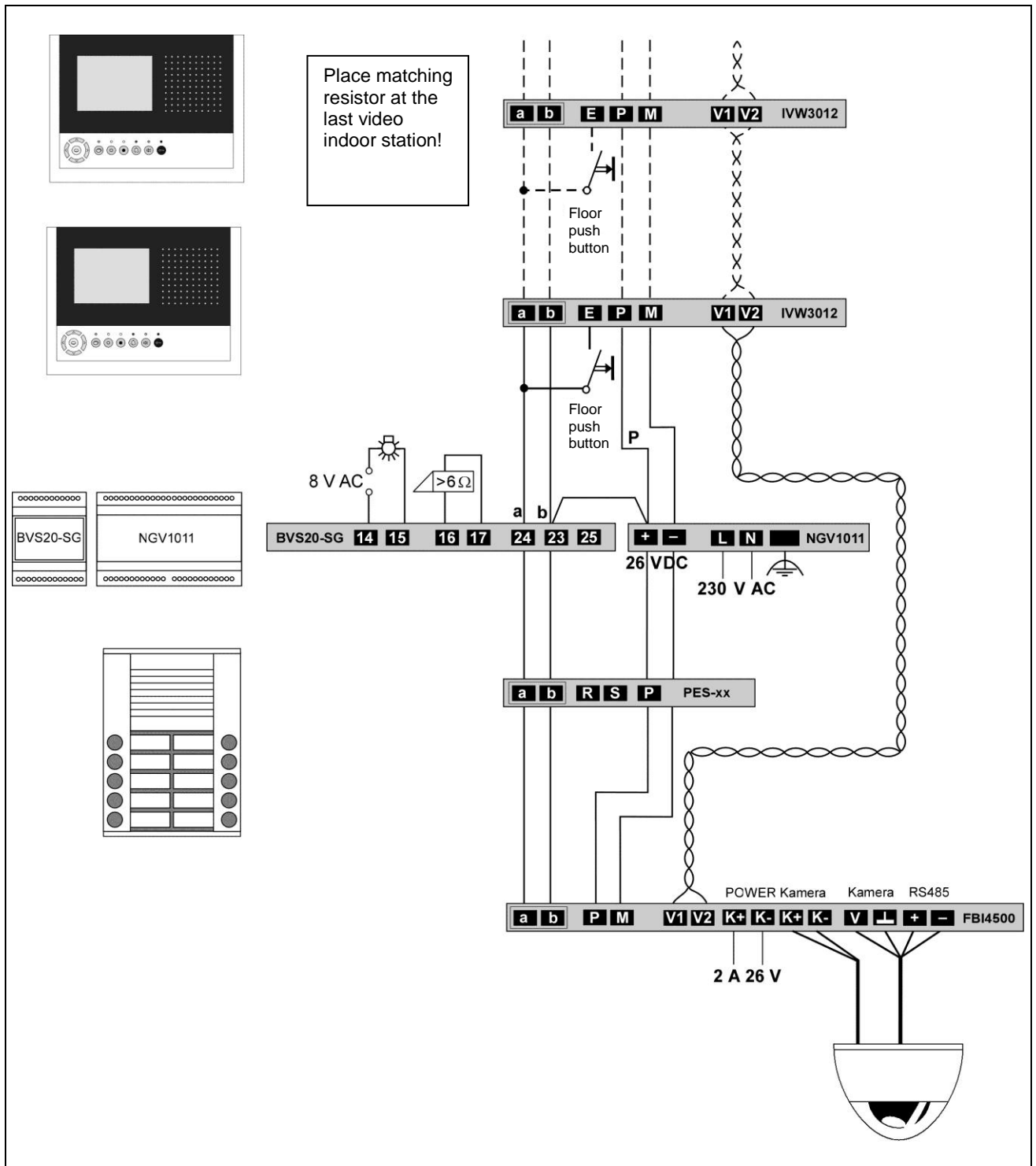
Note for the connection of more than one interface

! Max. 16 interfaces and 16 cameras are permitted when using up to 5 video switches at one TCS:BUS[®].

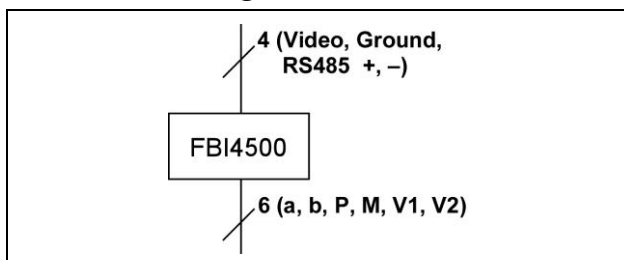
Setup the PTZ camera interface as end device

- If the device is installed at the end of a TCS:BUS[®] video strand, set the matching resistor!

Wiring diagram TCS:BUS[®] system



Connection diagram



Commissioning

Commissioning the system

- Install the devices of the system voltage-free and completely.
- The PTZ camera interface is to be connected to the TCS:BUS[®] according to the connection diagram.
- Check the a-, b- and P-wire against each other for short-circuits.
- Connect the PTZ camera according to the connection diagram.
- Switch ON the mains voltage.
The PTZ camera interface is ready for operation.

Storage in case of a voltage breakdown

The data, stored on the EEPROM storage which is integrated into the micro controller is still available even after a voltage breakdown.

Configuration

Presettings ex works

The device is equipped with an EEPROM which stores the following device settings ex works:

AS-address camera 1	0
Control function for moving to prepositions	239
Second AS-address for moving to preposition 2 camera 2	deactivated
Automatic Stop protocol	deactivated
Camera address	1
Type of PTZ protocol to control the camera	Pelco D
Baud rate	2400 Bd

Configuration options

Function	Manual	configo [™] version 1.7.x
Video level	x	-
Allocate camera AS-address for moving to preposition 1	-	x
Train / delete preposition of the connected camera	-	x
Allocate control function numbers to each preposition	-	x
Allocate 2nd AS-address for moving to preposition 2	-	x
Allocate control function number for topstitching between the prepositions	-	x
Determine PTZ protocol type (match with the camera type)	-	x
Activate / deactivate the sending of the automatic stop protocol, when activating: set delay	-	x
OSD camera menu	-	x

Preposition of a camera

The following settings can be realised with the configuration software configo™ as of version 1.7.x.

Setup preposition

- Start the configuration software configo™ and create an FBI4500 in your project. Open the device in configo™.
- Activate the image of an indoor station to set up the required image section.
- With the control keys (resp. navigation buttons) of this indoor station you can move the PTZ camera into the required direction (and the required zoom, as far as possible), or: move the camera directly via configo™.
- To store the preposition in the PTZ camera, press the button “Store preset x”.

Delete prepositions

- Start the configuration software configo™.
- Open the device FBI4500 within the configo™.
- To delete the preposition in the PTZ camera, press the button “Delete preset x”.

Operation

- With the control keys (resp. navigation buttons) LEFT, RIGHT, UP, DOWN at the video indoor station you can move to the stored pre-position .

Note:

If a video image was activated and a pre-position selected, the visible image section remains the same if, at the same time, a door call comes in and the call is accepted.

General information on the conduit in TCS video systems

6-wire operation

The 6-wire operation is the standard operation mode. It is video operation with two separated ground lines (b and M).

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

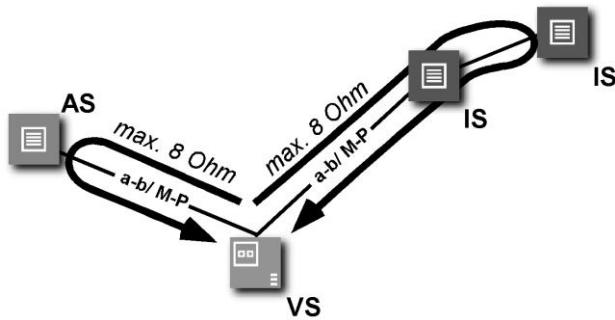
- Observe when selecting the cable length: the loop resistance a-b and M-P must not exceed a maximum of 8 Ω (table 1).
- If the loop resistance exceeds 8 Ω : use multiple wiring of the strands (double drilled lines).
- Optional strand or star shaped wiring.
- Do not use more than 20 video indoor stations 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 an unlimited number of indoor stations can be connected polarity-free (a/b) within a system (polarity-free only in 6-wire operation). Thus, a suitable power supply and control unit must be used.

Table 1: Loop resistances

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

Principle loop resistance

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



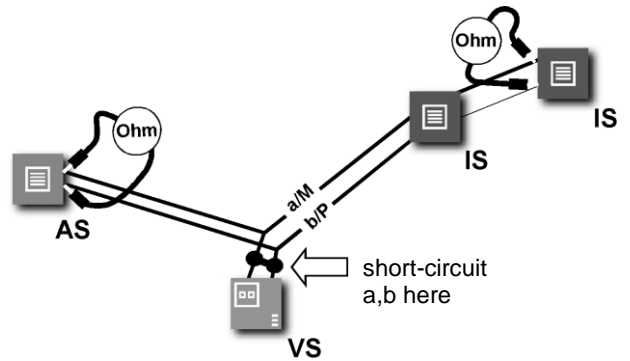
8 Ohm:

max. 65 m distance AS-VS on 0.6 mm diameter
 max. 115 m distance AS-VS on 0.8 mm diameter

Measurement loop resistance


Rule:

- Switch off the 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 loop resistance at the strand at a/b of the last IS or AS.




-
- AS Front-door station
 - VS Power supply and control unit
 - IS Indoor station
 - FE Extended function
-

Cleaning

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

Clean the device with a dry or slightly wet cloth.
Remove stronger stains with a mild household cleaner.

Conformity

 The declarations of conformity are available under www.tcsag.de, Downloads, trade information.

Information on disposal



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



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

Warranty

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

- Please note our **conditions of sale and delivery**, download from www.tcsag.de, Downloads, trade information.
- Please contact the **TCS HOTLINE**.

Notes

Service

Please send your questions and inquiries to
TCS HOTLINE 0 41 94 / 98 81 188

Head quarters

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