

## Product Information



### DCM Video outdoor station

1 to 4-gang

TK ASV AL 114 A WW

TK ASV AL 114 A

TK ASV ES 114 A-L

2 to 8-gang

TK ASV AL 128 A WW

TK ASV AL 128 A

TK ASV ES 128 A-L



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## Safety instructions

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

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

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

- separate cabling for high and low voltage lines
- minimum distance of 10 cm for joint cabling arrangements,
- use of separators between high and low voltage lines in joint cable ducts,
- use of standard telecommunication cables, e. g. J-Y (St) Y with 0.8 mm<sup>2</sup> cross section
- existing cables (modernisation) with different cross sections may be used whilst taking account of the loop resistance.

**!** Suitable lightning prediction must ensure that a voltage of 32 V DC will not be exceeded at the DCM BUS wires a and b.

## Application / Brief description

### **Application**

- hands-free operation with high audio quality (full duplex)
- release door calls
- Start a video image at the video indoor station by means of pressing a bell button
- switching light

### **Brief description**

- Camera with a resolution of 1.3 MP, detected area of 130°, automatic screen adjustment, automatic switch over between day and night, automatic backlight compensation, automatic white fader, camera cover made of break-proof material
- full duplex operation in combination with comfort indoor station
- half duplex operation in combination with standard indoor station
- high audio quality due to active noise suppression (noise and line echo cancellation)
- AEC (Acoustic Echo Cancellation), electronic method for acoustic echo reduction
- automatic calibration of the ambient and network conditions
- high-quality sound and great speaker dynamics
- volume adjustable
- covers for push-buttons can be combined variably, 1- to 4-gang or 2- to 8-gang
- acknowledge tone for bell button
- acoustic status indication if system is occupied (existing communication)
- automatic call cut-off
- durable energy saving LEDs for labeling illumination
- fault analysis due to different flashing of the LED labeling illumination
- fault differentiation due to acoustic feedback signal when pressing a bell button
- weather-proof loudspeaker
- compact, robust aluminium housing
- integrated dismounting protection
- bell button configured for switching light (basic settings)
- bell button switches light depending on brightness (automatic light)
- brightness threshold adjustable
- connection for DCM service device
- programming possible without access to flats
- device configuration is saved on exchangeable EEPROM
- connection: 6-wire-technique
- electret capacitor microphone
- audio and video stations can be combined in the same installation
- inscription fields can be labeled with the JUNG labeling tool ([www.jung-label.de](http://www.jung-label.de))

## Device overview

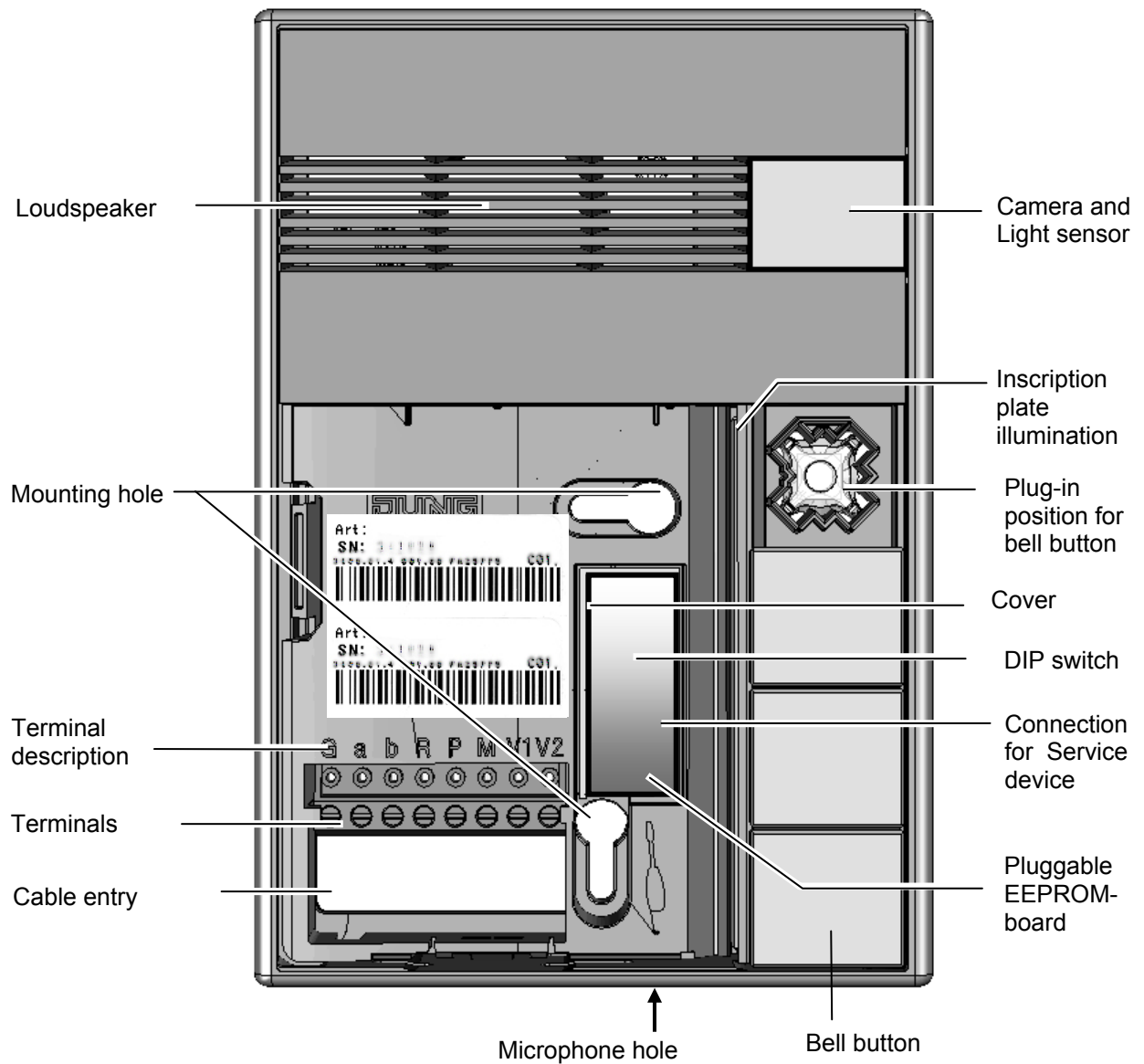


Illustration: TK AS AL 114 A, without inscription plate



## Installation

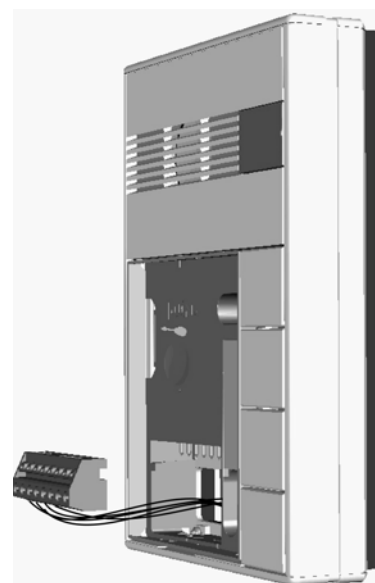
### Assembling outdoor station

- Insert the wires through the cable entry..
- Connect the device with adequate screws (see *device overview*).
- Equip the device with the covers for bell buttons as desired. Please observe mechanical coding of the covers for bell buttons. Snap the buttons into place with a slight push.

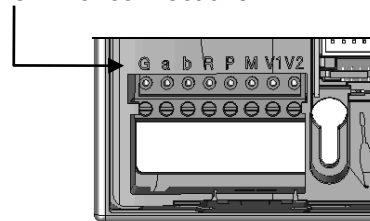
**!** Make sure that the wires do not get pinched between the wall and the reverse side of the device.  
Please first tighten the upper screw, then the lower screw.

### Connecting wires

- Take off the connection block downwards.
- Attach the wires to the connection block in accordance with the terminal description.
- Plug on the connection block.
- Place the wires into the space under the connection block.  
Protruding wires disturb the installation of the inscription plate.



Terminal connections



Carry out the following steps before closing the device:

- commissioning
- cover configuration
- programming
- adjusting parameter
- labeling the inscription plate

### Inscription field

- Put the labeled inscription foil (2) into the inscription field (1).

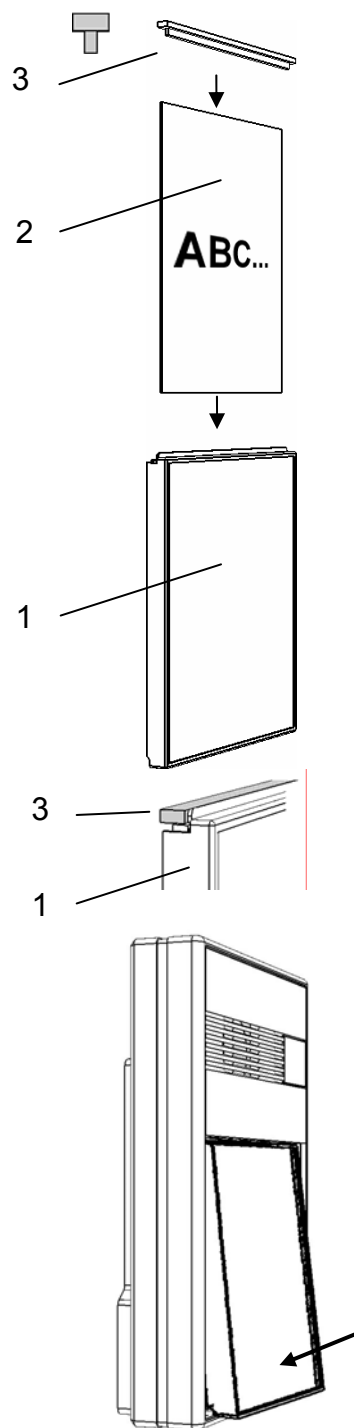
- |   |                   |
|---|-------------------|
| 1 | inscription field |
| 2 | inscription foil  |
| 3 | gasket            |

- Close the opening with the gasket (3).

Pay attention of the gasket position.

### Closing the device

- Put the nameplate with the upper edge into the housing and snap the bottom edge into place.
- The name plate should snap into place with a click.

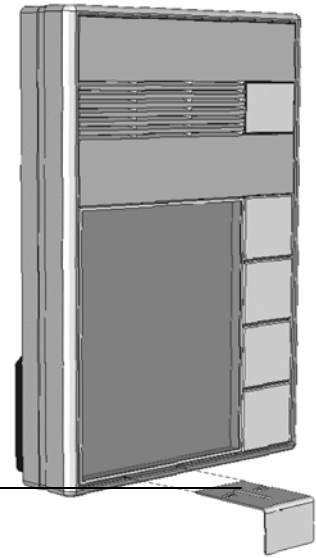




### Opening the device

- Slide the opening tool into the slit under the nameplate until it engages.
- Pull the opening tool out of the device together with the nameplate.

Opening tool



## Commissioning


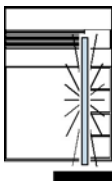

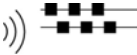

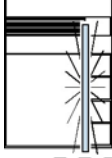


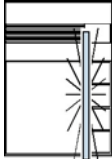


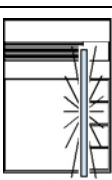




Please complete the full installation before you connect the system to the mains voltage!

- ! • Do NOT connect V1 and V2 with the P-, M-, a- or b-wire. Even a connection for a quick moment will destroy the device.
- When connecting the video wires V1 (+) and V2 (-) observe polarity. If you can see a distorted image on the display, switch off the mains voltage and change the wires V1 and V2..

- Install all of the devices of the system completely.
- Check the a, b and P wires for short-circuit.
- Switch on the mains voltage.  
The following functions are available without additional programming:
  - existing communication from the indoor stations to the outdoor station
  - door release function
  - light switching

### Acoustic and optical signals, pressing buttons

	Positive acknowledge tone		Nameplate illumination On
	Negative acknowledge tone (button already programmed)		
	Ring tone (from programming acknowledgement)		
	Prog2 tone (programming of the 2nd serial number begins)		Nameplate illumination flashes: Programming mode 0.5 s On / 0.5 s Off
	NoProg tone (programming will be deleted if the button is released now)		
	ProgBlock tone		Nameplate illumination flashes quickly: Parameter mode 0.125 s On / 0.125 s Off
	Occupied tone		
	Press button briefly (approx. 1s) and release		Nameplate illumination pulse flashing: Fault mode 0.175 s On / 0.825 s Off
	Press button until ...		
	Release button		

## Setting the button layout

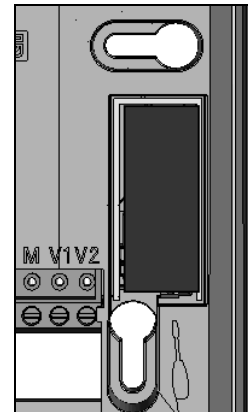
The button layout can be configured using the DIP switch.  
To set the button layout, DIP switch 8 must be in the OFF position.

**!** If the button layout is not set for 1-gang and 2-gang buttons, there will be malfunctions during operation.

**!** When the button layout is changed, all of the bell buttons have to be deleted. All bell buttons are assigned with the light switching function.

### DIP switch cover

- Open the device if necessary.
- Remove the cover over the DIP switches.



### Buttons

#### 1-gang button

Button occupies 4 plug-in positions and covers 3 gaps.



1-gang button

#### 2-gang button

Button occupies 2 plug-in positions and covers 1 gap.



2-gang button

#### 4-gang button

Button occupies 1 plug-in position and does not cover any gap.



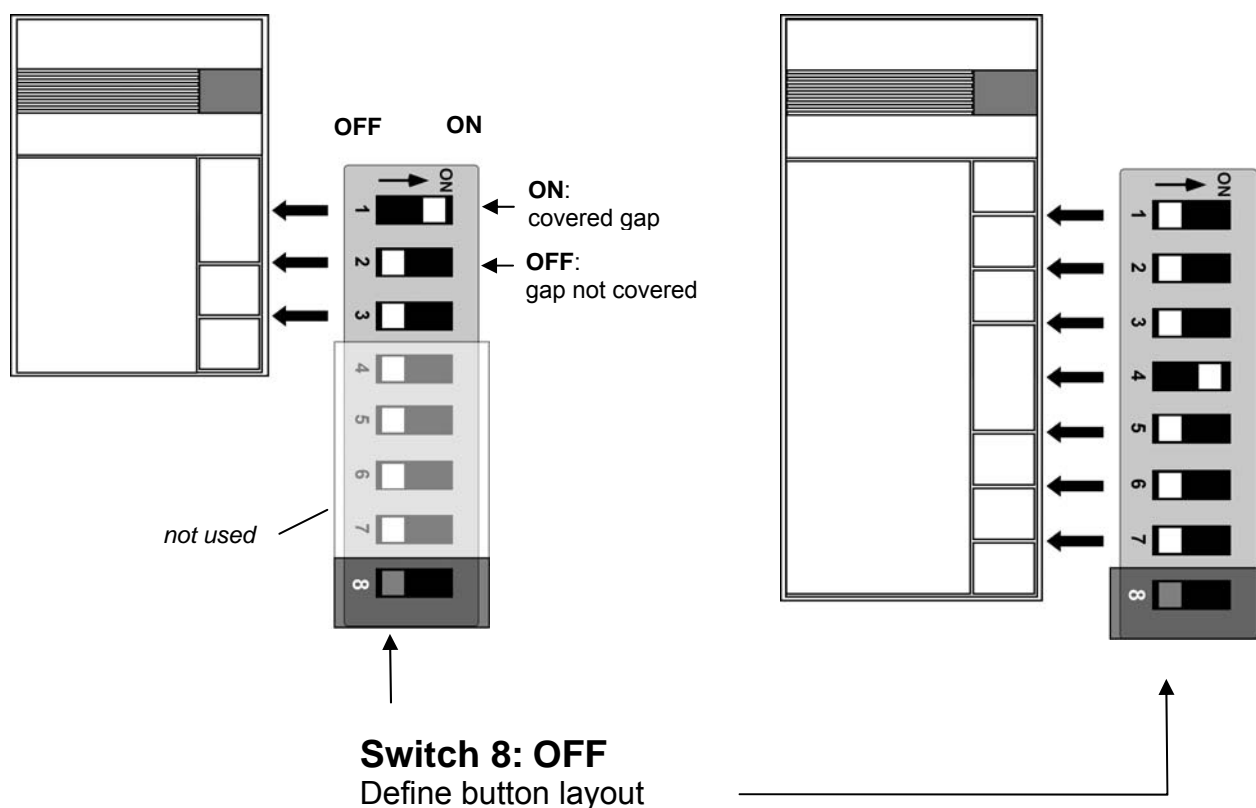
4-gang button

### Button layout: Setting the DIP switches

Each DIP switch corresponds to one of the three or seven gaps between two plug-in positions.

If a button covers an gap, the switch must be set to ON.

If configured completely with 4-gang buttons, all DIP switches must be in the OFF position.



### Activating the button layout

- To activate the new button layout, the buttons must be programmed as bell buttons (assignment of an indoor station).
- If a 2-gang or 1-gang button is to be used as a light button, this button must first be programmed as a bell button and then deleted.

### Fitting the button

- Fit the DCM buttons according to the configuration. Note the mechanical encoding of the buttons. Press lightly on the buttons to snap them in.

## Bell button programming

### Basic principle

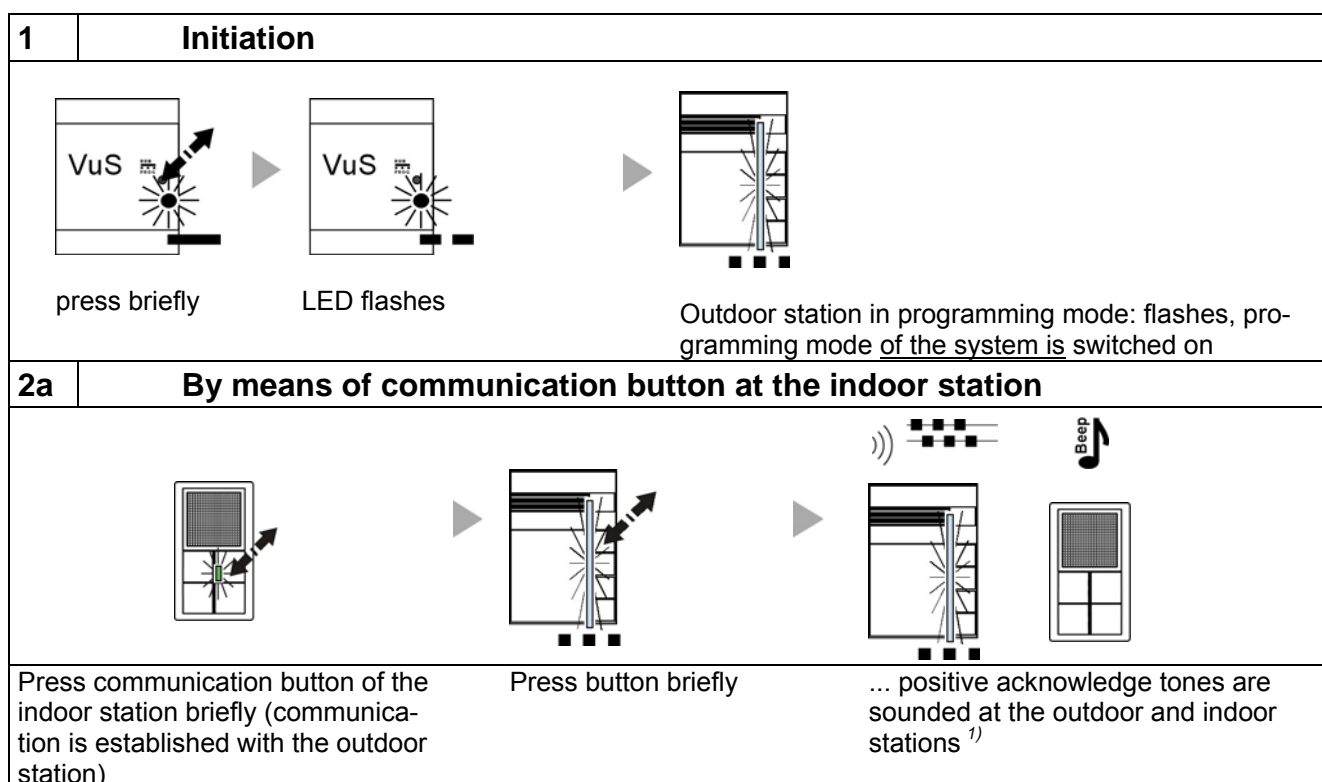
- All of the devices on the DCM BUS have a unique serial number.
- When a bell button is programmed, the serial number of an indoor station is assigned and saved in the EEPROM of the outdoor station. 1 or 2 indoor stations (serial numbers) can be assigned and triggered with each bell button.
- If no serial number is assigned to a bell button (state at delivery / serial number deleted), the light can be switched on by pressing this button.

### Programming a bell button

Make sure that the indoor stations are connected to the DCM BUS and the mains voltage is switched on (the LED on the power supply and control unit is illuminated).

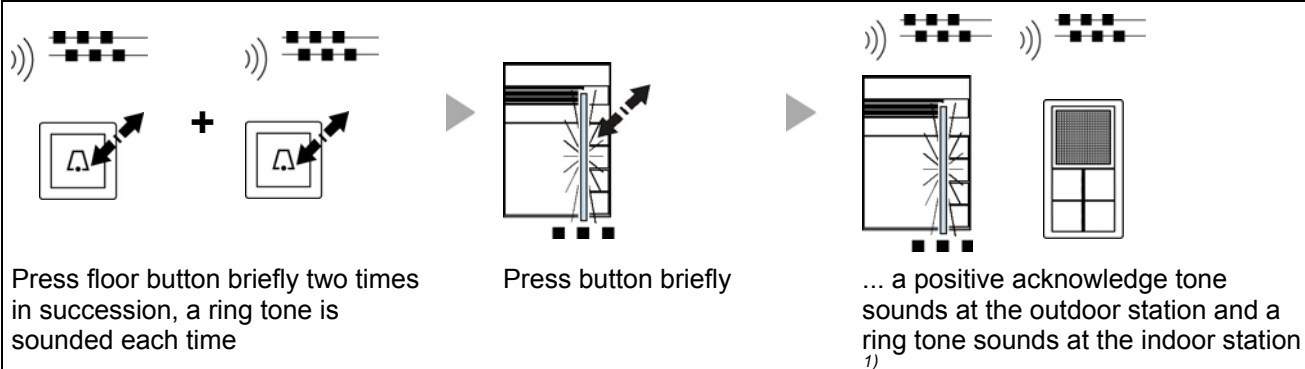
! The button layout must be set before the bell buttons are programmed.

! The programming must be deleted before a previously programmed bell button can be reprogrammed.



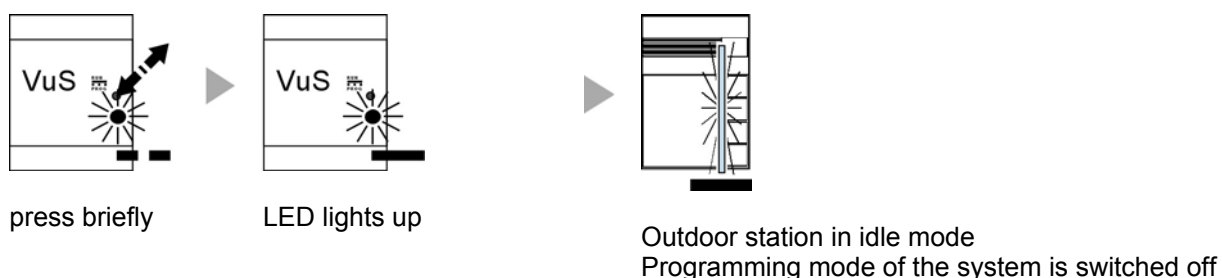
<sup>1)</sup> If instead a programming block tone is audible, the outdoor station has been given a programming block. The programming block can only be cancelled using the TK-SERVICE service unit

## 2b By means of floor button (indoor station is not accessible)



Repeat steps until all bell buttons have been programmed

## 3 Finishing



1) If instead a programming block tone is audible, the outdoor station has been given a programming block. The programming block can only be cancelled using the TK-SERVICE service unit

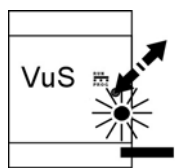
### Programming a second indoor station to a bell button (parallel call)

The *parallel call* triggers 2 indoor station from one bell button of the outdoor station. The floor button only triggers the hard-wired indoor station.

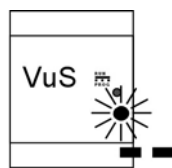
To give the bell button and floor button the same functionality, the *parallel function* must be used. In this case several indoor stations respond both to the same bell button and to the same floor button. The *parallel function* must be set using the DCM service unit.

**Note:** Repeated programming of an already programmed bell button always only changes the second serial number. If you wish to change the serial number that was programmed first, you have to delete both serial numbers and then reprogram both serial numbers again.

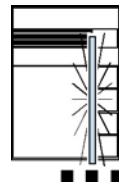
#### 1 Initiation



press briefly

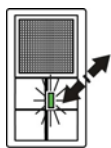


LED flashes

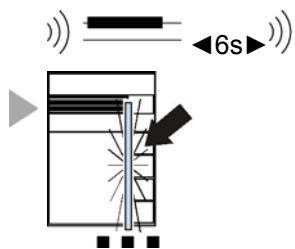


Outdoor station in programming mode: flashes, programming mode of the system is switched on

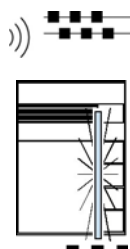
#### 2a By means of communication button at the indoor station



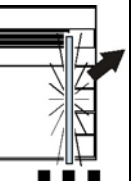
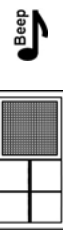
Press communication button of the indoor station briefly (communication is established with the outdoor station)



Press button until a Prog2 tone and a NoProg tone and ...

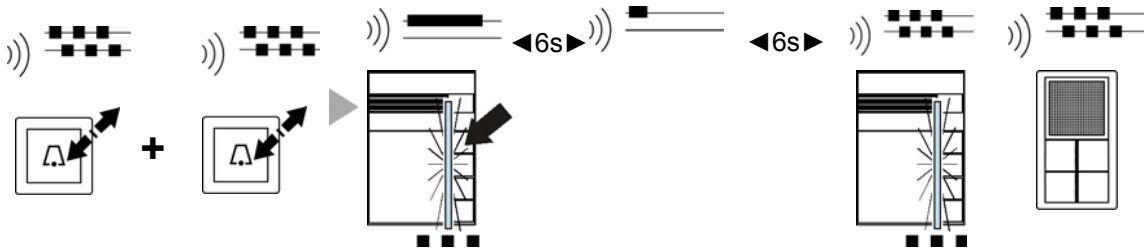


... a positive acknowledge tone are sounded at the outdoor and indoor stations<sup>1)</sup>



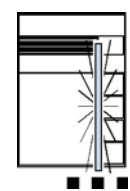
release

#### 2b By means of floor button (indoor station is not accessible)

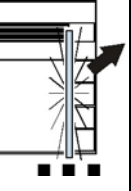


Press floor button two times in succession, a ring tone is sounded each time

Press button until a Prog2 tone and a NoProg tone and ...



... a positive acknowledge tone sounds at the outdoor station and a ring tone sounds at the indoor station<sup>1)</sup>

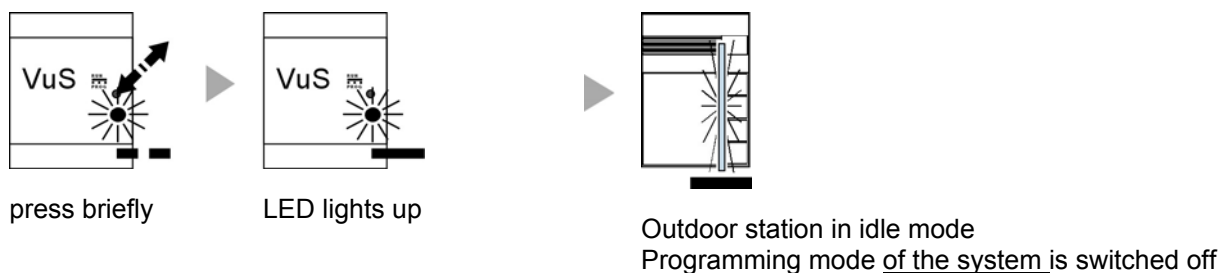


release



Repeat steps until all ring tones have been programmed

### 3 Finishing

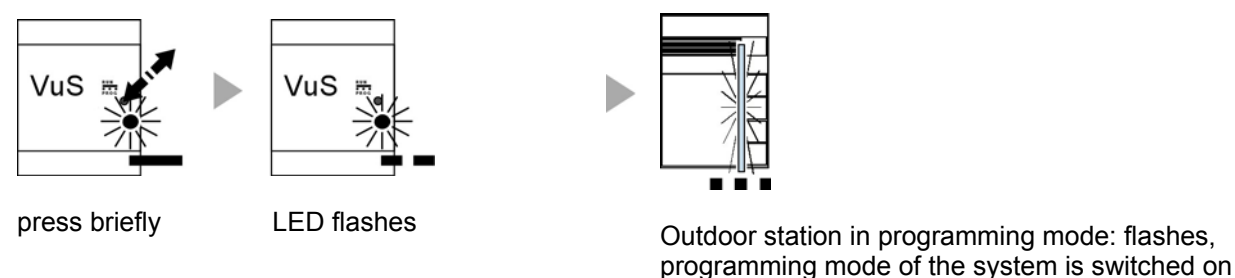


1) If instead a programming block tone is audible, the outdoor station has been given a programming block.  
The programming block can only be cancelled using the TK-SERVICE service unit

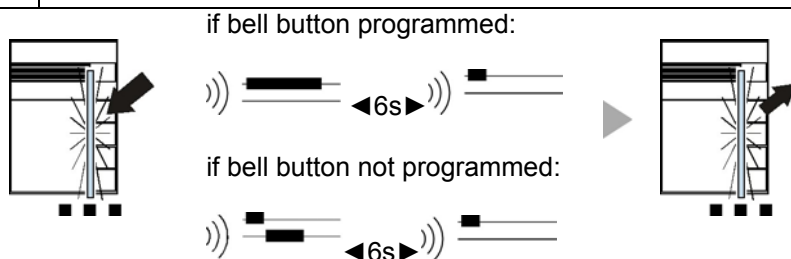
### Deleting the programming

Before a bell button can be programmed, an existing programming has to be deleted.

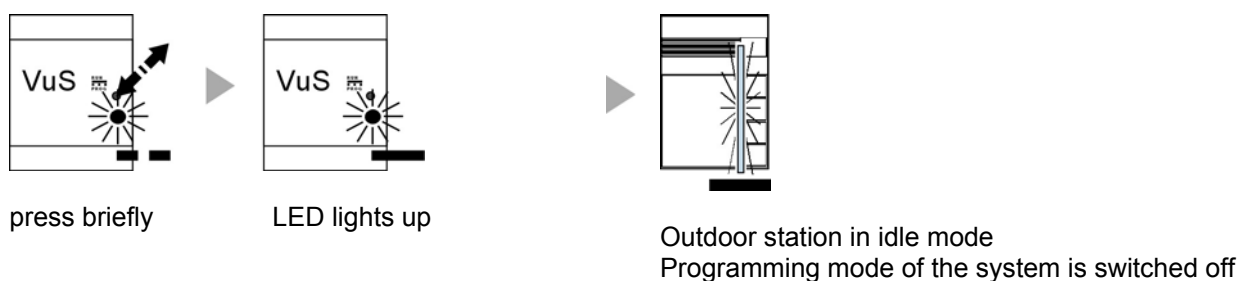
### 1 Initiation



### 2 Execution



### 3 Finishing



1) If instead a programming block tone is audible, the outdoor station has been given a programming block.  
The programming block can only be cancelled using the TK-SERVICE service unit.




### **Programming a bell button with the DCM service device**

Use the simple 1-man programming with the DCM service device.

To do this you do not need any connection with the indoor stations in the flats.

The serial numbers of the individual indoor stations are needed for programming.


!	To do this, the programming mode of the system does not have to be switched on at the power supply and control unit!
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	Response
1. Connect the service device to the outdoor station.	
2. Enter the serial number of the indoor station on the keypad.	
3. Press the short programming button  . Wait until a P appears on the display.	The serial number of the indoor station is transmitted to the outdoor station.
4. Briefly press the bell button on the outdoor station that should be assigned to this indoor station.	A positive acknowledge tone from the service device confirms that the programming was successful.

### **Programming sub door calls to bell buttons with the DCM service device**

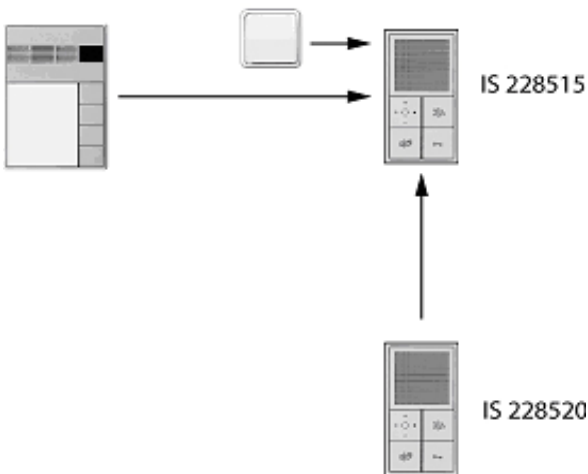
A sub door call can be used to assign up to 4 additional bell buttons to a single indoor station. In this manner each bell button is assigned its own ring tone. Thus there can be an individual ring tone for each member of the family.

Programming the bell buttons of an outdoor station with sub door calls is only possible using the DCM service device.

	Response
1. Connect the service device to the outdoor station.	
2. Add +1 (+2, +3, +4) to the serial number of the indoor station. Enter the new serial number on the keypad.  Example: Ser.No. of the indoor station: 251050 sub door call 1: $251050 + 1 = 251051$ sub door call 2: $251050 + 2 = 251052$ sub door call 3: $251050 + 3 = 251053$ sub door call 4: $251050 + 4 = 251054$	
3. Press the short programming button  . Wait until a P appears on the display.	The serial number of the indoor station is transmitted to the outdoor station.
4. Briefly press the bell button on the outdoor station that should be assigned to this indoor station.	A positive acknowledge tone from the service device confirms that the programming was successful.

## Parallel function

Several indoor stations can respond to the same bell button and the same floor button. Additional stations respond to all calls in the same way as the first indoor station.

<p>Ser. No. = Serial number of the indoor station which should be adjusted.  ParSNo. = Serial number of the (first) indoor station to which the additional indoor station should be assigned.</p>	
<p><b>Initiating the programming process</b></p>	<p>* 95 # Ser.-Nr. #</p>
<p><b>Parallel assignment</b>  Example:</p>  <p>IS (228515) is assigned to a bell button of the outdoor station.  IS (228520) will be assigned parallel to IS (228515).  With the following key combination IS (228520) operates parallel with IS (228515).</p> <p>* 99 # 228520 # 228515 #</p> <p><b>Note:</b>  The parallel assignment to a serial number is deleted with ParSNo 0.  * 99 # 228520 # 0 #</p>	<p>* 99 # Ser.-Nr. # ParSNr #</p>

## Parameters

<b>Settable parameters</b>	<b>Factory pre-setting</b>	<b>Can be set with DIP switch</b>	<b>Can be set with Service device</b>
OS address	not blocked		x
Communication time	60 s	x	x
Door release time	3 s	x	
Acknowledge tone type	Standard		x
Acknowledge tone volume	medium	x	
Voice volume	medium	x	
Programming block on/off	off		x
Light switching function via the door release function of the indoor stations on/off	off		x
Talking only after incoming door call	off		x
Switching threshold for the automatic light function dependent on outdoor light	medium	x	

### **Setting and blocking AS address**

For operation with multiple outdoor stations, a separate AS address (0 – 63) must be set for each outdoor station. This produces an unambiguous assignment of the outdoor stations.

### **Setting and cancelling a programming block**

When a programming block is set, no bell button programming can be performed. The programming block must be reset before reprogramming.

At the same time, when the programming block is cancelled, the *light switching function* and *talking only after incoming door call* are cancelled and the *acknowledge tone* is reset to the factory pre-setting.

### **Light switching function**

Allows double assignment of the door release button to the indoor stations. When the light switching function is activated, door released is only actuated when existing communication is active. Without existing communication the light will be switched on. Thus the function button of the indoor stations remains available for other functions.

### **Automatic light switching**

Brightness-dependent light switching when the bell button is triggered.

The function can be deactivated, adjusted in 6 brightness levels or switched independent of the brightness.

### **Light switching**

The light can be switched on manually via non-programmed bell buttons or the function button of the indoor stations.

In the state at delivery the function button of the indoor station is assigned with this function.

### **Nameplate illumination**

Brightness-independent switching of the nameplate illumination

The state at delivery is always ON.

## Setting parameters with DIP switches

### 1. Select parameter

Set DIP switches 1, 2 and 3, that the parameter to be changed has been selected.

### 2. Set value

Set switches 4, 5 and 6 in accordance with the desired value.

### 3. Activate parameter mode

Set **switch 8 to ON**.

Nameplate illumination flashes quickly (0.125 s On / 0.125 s Off).

### 4. Apply parameter

Pressing any bell button saves the desired value for the parameter being set. An acknowledge tone sounds as a confirmation.

### 5. Deactivate parameter mode

Set **switch 8 to OFF**.

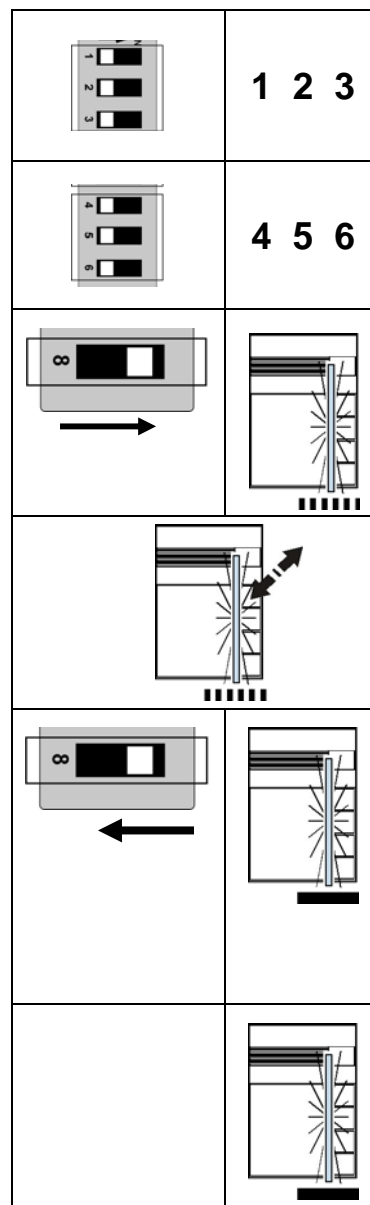
Nameplate illumination: ON.

Note:

To set additional parameters, repeat steps 1 – 5. Otherwise continue with step 6.

### 6. Set the original button layout

After setting the parameters, reset the DIP switches according to the button layout.



## DIP switch table for parameter setting

	Parameter selection	1	2	3	Parameter				
		OFF	OFF	OFF	Total volume MIC/LSP (Vol)				
		ON	OFF	OFF	Acknowledge volume (AVo)				
		OFF	ON	OFF	Door release time (DRt)				
		ON	ON	OFF	Communication time (Cot)				
		OFF	OFF	ON	Automatic light switching threshold (ALT)				
		ON	OFF	ON	Nameplate illumination threshold (NIT)				
		OFF	ON	ON	not assigned				
ON	ON	ON	not assigned						

	Parameter value	4	5	6	Vol	AVo	DRt	Cot	ALT	NIT
		OFF	OFF	OFF	MIN	MIN	0.5s	15s	OFF	OFF
		ON	OFF	OFF	1	1	1s	30s		
		OFF	ON	OFF	2	2	2s	45s	2	2
		ON	ON	OFF	3	3	3s	60s	3	3
		OFF	OFF	ON	4	4	4s	75s	4	4
		ON	OFF	ON	5	5	5s	90s	5	5
		OFF	ON	ON	6	6	6s	105s		
		ON	ON	ON	MAX	MAX	7s	135s	ON	ON

7	not assigned
---	--------------

	8	DIP switch function
	ON	Set parameter
	OFF	Define button layout

### Abbreviations:

**Vol** Total volume of microphone / loudspeaker

**AVo** Volume of acknowledge tones

**DRt** Door release time for a connected door release relay, Art. No.: TKTR24EB

**Cot** Communication time until the existing communication is switched off automatically

**ALT** Switching threshold for the automatic light function

**NIT** Nameplate illumination threshold

## Setting parameters with the DCM service device

Configuring outdoor stations	
Functional characteristics of the outdoor stations can be modified using the service unit. Each outdoor unit has a serial number. In order for the settings to reach the desired outdoor station, the serial number of the outdoor station must also be indicated in all Group 7 command sequences.	
Ser. Nr. = the serial number of the outdoor station which should be adjusted (see label in the outdoor station)	
AS = Outdoor station address (value 0 ... 63)	
<b>Cancel programming block:</b> <i>Light switching function, talking only after incoming door call and acknowledge tones</i> are reset to factory settings.	* (71) (#) Ser.-Nr. (#)
<b>Setting programming block</b> <b>NOTE:</b> When a programming block is set, no button programming can be performed. If you attempt to perform programming, you will hear programming block tone at the outdoor station.	* (72) (#) Ser.-Nr. (#)
<b>Set communication time</b> Communication time = (1 to 15) * 8 s (Sprechzeit) 0 = unlimited	* (73) (#) Ser.-Nr. (#) Sprechzeit (#)
<b>Talking only after incoming door call</b>	* (74) (#) Ser.-Nr. (#)
<b>Select acknowledge tone for door calls</b> Fct. = 0 – acknowledge tone when door call (ring tone) 1 – 2 – short acknowledge tone when door call 3 – no acknowledge tone when door call (except for P mode)	* (75) (#) Ser.-Nr. (#) Fkt. (#)
<b>Set and block outdoor station address</b> <b>NOTE:</b> The block cannot be reset. Thus no automatic assignment of the outdoor station address is possible. AS = outdoor station address (0...63)	* (76) (#) Ser.-Nr. (#) AS (#)
<b>Activate light switching function</b>	* (77) (#) Ser.-Nr. (#)

## Labelling the nameplate

Use the *JUNG labeling tool* to label the nameplates of your outdoor stations. You will find it at the following Internet address:  
[www.jung-label.de](http://www.jung-label.de).

1. In the "Template" field, select the ref.-number of your outdoor station, e.g. TK AS AL 114 A WW. Arrange the template to suit your requirements.
2. Using a laser printer, print the nameplates on the supplied special foil, Ref. No.: TK 60 FO.
3. Insert the foil into the nameplate.

**!** Use only the supplied foil to label the nameplates! Jung Ref.-No.: TK 60 FO.

## Copy parameter

### ***Exchanging the EEPROM***

Parameters and serial numbers are stored in an external EEPROM. This board can then be inserted into a different outdoor station of the same type. The device settings are applied during initialization.

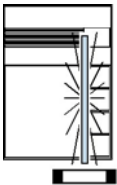




If an outdoor station is defective, e.g. due to vandalism, the programming of the system is transferred to the new outdoor station by exchanging the EEPROM.

- Disconnect the main voltage from the outdoor station.
- Open the device and remove the cover.
- Pull the EEPROM board out of its holder.
- Make sure that the new, non-programmed outdoor station is deenergized.
- Insert the EEPROM board into this outdoor station.

## Fault identification, indication and querying

- Faults are signaled visually and acoustically (single fault tone and continuous flashing of the light strip).
- The fault type can be queried by pressing any bell button, the fault tone is sounded again.

### ***Fault sources***

Fault sources	Nameplate illumination indication	Fault tone	Elimination
No EEPROM		))) 	Insert EEPROM, switch mains voltage on again!
a and P wires interchanged		))) 	Exchange a and P wires, device back to idle mode in a few seconds
"a" wire not connected		))) 	Connect a wire, device back to idle mode in a few seconds
Button sticks (pressed > approx. 20 s)		))) 	Release button, device back to idle mode in a few seconds

## Explanation of terms and definitions

AS address	Every outdoor station is assigned with an <b>outdoor station address</b> . The address enables the differentiation between the various installed outdoor station. Selective communication or door release of e.g. main- or side entrance can be realised.
Ready for operation	Incoming door call - You can hear a ring tone and the LED at the communication button flashes. You can activate a communication with the outdoor station by means of a short push of the communication button.
Hands-free operation (Full duplex)	Simultaneous communication in both directions.
Door call	You release a door call at the assigned indoor station by means of pushing the bell button. A bell button can release a door call at two indoor stations (parallel call).
Internal call	An indoor station can call another assigned indoor station for an internal communication.
Automatic light switching  <i>Programming at the outdoor station.</i>	The light will be switched depending on the ambient brightness when you push the bell button of the outdoor station. The limited brightness value is adjustable.
Light switching	The function button of the indoor station is assigned with the function "light switching" (factory setting). A bell button of the outdoor station will switch the light, if the bell button is not assigned to an indoor station.
Light switching function  <i>Programming at the power supply and control unit.</i>	This door release button of the indoor station can be assigned with a second function, when the light switching function is activated: You first have to push the communication button before you can release the door with the door release button. Without pushing the communication button you will switch the light with the door release button.
Parallel call	A second indoor station can be programmed to a bell button of the outdoor station.
Parallel function  <i>Programming only with the service device.</i>	Multiple indoor station can respond to one bell button of the outdoor station or the floor bell button. Each further indoor station respond just as the first indoor station.
Programming mode	The system has to be in programming mode to assign the indoor stations to the desired bell buttons of the outdoor station.
Programming lock	Protection against unauthorized programming. With active programming lock no bell button can be programmed.
Acknowledge tone	Acoustical confirmation
Idle mode	The device is ready for a door call or other operation.
Call diversion	An incoming door call will be forwarded from one indoor station to another indoor station. The call diversion has to be activated with the function button. The illuminated LED of the function button indicates the activated call diversion.



Talking mode	A communication between indoor and outdoor station will be activated by means of pushing the communication button. The LED of the communication button is illuminated. The LED of the communication button is flashing, when another indoor station is already communicating with the outdoor station. After elapsed talking time, activating the door release or pushing the communication button again, the device turns back into idle mode.
Talking only after incoming door call  <i>Programming only with the service device.</i>	A communication between indoor and outdoor station can only be activated after an incoming door call.
Talking time	The communication between indoor and outdoor station will be interrupted after a pre-defined talking time (60 s factory setting). The talking time is adjustable.
Control function	Command for the control various relays in the door communication system.
Sub door call  <i>Programming only with the service device.</i>	The sub door call enables to assign 4 additional bell button of the outdoor station to the same indoor station. Each bell button can be assigned to a separate ring tone (e.g.: individual ring tones for each family member).
Automatic door release	The door release relay will be activated by means of pushing the bell button. The automatic door release can be activated/deactivated with the function button of the indoor station. The LED of the function button indicates the status. LED ON = automatic door release activated LED OFF = automatic door release deactivated
Door release time	The door release relay can be activated for an adjusted time.
Voice memo-function	Record and play a voice memo (message) up to a length of 30 s.

### General notes on the wiring in DCM audio systems

#### 6-wire operation

The 6-wire operation is the standard operation. A video system requires 2 separate ground potential (b und M).

The cabling depends on the building situation and will only be limited by the max. possible cable length.

- Consider the cable length: The loop resistance a-b and M-P shall not exceed a max. of 8  $\Omega$  (see table).
- When loop resistance > 8  $\Omega$ : Extend the cable diameter by means of using multiple twisted pairs
- line or star-shaped wiring
- Do not install more than 20 Video indoor stations in one line. For systems with more than 20 video stations consider installation of video distributor (TK VV 2 REG or TK VV 2 U)
- Up to 64 outdoor stations (max 16 Video outdoor stations) and unlimited indoor stations can be installed with the adequate power supply & control unit (avoid reverse polarity)

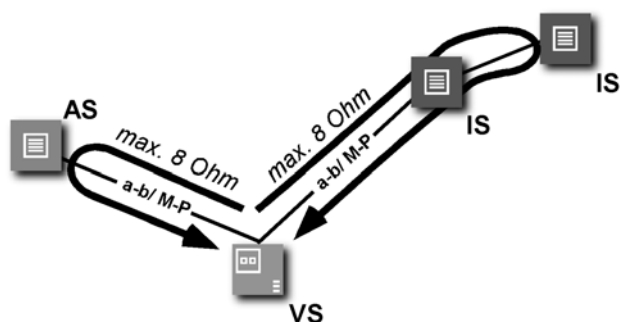
Table: Loop resistance

Wire length in m	Cross section	
	0.6 mm	0.8 mm
Loop resistance in $\Omega$		
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	8.57	4.82
80	9.80	5.51
90	11.02	6.20
100	12.24	6.89

## Principle of loop resistance

Rule:

No door communication device shall have a longer distance from the power supply & control unit than 8 Ohm !



8 Ohm:

65 m wire length AS-VS (IS-VS) at a cross section of 0.6 mm  
 115 m wire length AS-VS (IS-VS) at a cross section of 0.8 mm

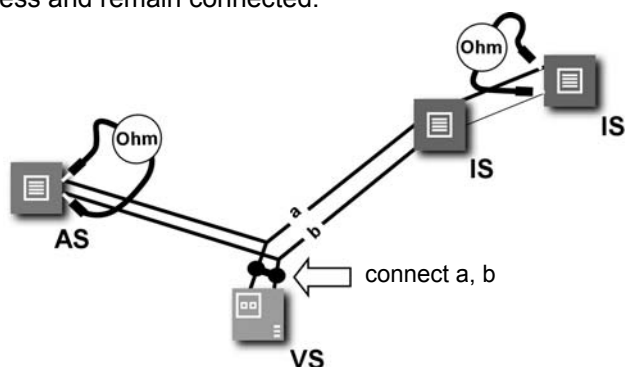
## Measuring loop resistance

Rule:

Turn OFF 230 V / 50 Hz of the VS.

Connect a and b short circuit at the VS.

All other devices do not disturb the measuring process and remain connected.



AS: Outdoor station

IS: Indoor station

VS: Power supply and control unit

## Technical data

Supply voltage:		+24 V DC $\pm$ 8 % (Power supply & control unit) 24 V (a-b) / 26 V (P-b) in idle mode
Dimensions (W x H x D):	1 to 4-gang	106.5 x 152.5 x 24.4 mm
	2 to 8-gang	106.5 x 240.5 x 24.4 mm
Inscription field (W x H):	1 to 4-gang	71 x 85 mm
	2 to 8-gang	71 x 173 mm
Input current:		I(a) = 0,1 mA, I(P) = 26 mA in idle state
M Max. input current:		I(amax) = 14 mA, I(Pmax) = 150 mA
Protection level:		IP44, according to DIN EN 50486
Admissible ambient temperature:		-25 °C ... +55 °C
Operation humidity:		0 to 80 % r. h.
Installation height:		Recommended 1.50 m

## Cleaning

**!** Avoid the penetration of water into this device!  
Do not use any aggressive or abrasive cleaning supplies!

Please clean the device with a dry or slightly moist rag.  
Intense dirt can be removed with a mild cleaning supply.

## Acceptance of guarantee

We accept the guarantee in accordance with the corresponding legal provisions.  
**Please return the unit postage paid to our central service department giving a brief description of the fault:**

### ALBRECHT JUNG GMBH & CO. KG

#### Service-Centre

Kupferstr. 17-19  
44532 Lünen  
Germany

Service-Line: 0 23 55 . 80 65 51

Fax: 0 23 55 . 80 61 89

E-Mail: mail.vka@jung.de

### Technique (DCM)

Service-Line: 0 23 55 . 80 65 52


Fax: 0 23 55 . 80 62 55

E-Mail: mail.vka@jung.de



ALBRECHT JUNG GMBH & CO. KG  
P.O. Box 1320  
58569 Schalksmühle

[www.gb.jung.de](http://www.gb.jung.de)  
[www.jung-catalogue.com](http://www.jung-catalogue.com)

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Technical subjects to change.  
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