

DCM

Standard indoor station

DCM Standard indoor station

- acoustical and optical indication of door and internal calls
 - hands-free operation with high audio quality
 - door release function
 - switching light
 - hands-free operation, manual controlled simplex operation possible
 - internal call with automatically hands-free operation
 - door release button
 - one push-button switches lighting (basic settings)
alternative assignment: control function, internal call, automatic door release, call diversion
 - push-button for taking call or change over between speaking/listening if simplex communication is activated
 - selection of 13 ring tones
 - ring tone differentiation between main door, floor door and internal call
 - sub door call: 4 bell buttons of the outdoor station can be assigned to 4 different ring tones of the indoor station
 - ring tone differentiation of 2 outdoor stations
 - ring tone volume manually adjustable
 - high-quality sound and great speaker dynamics
 - ring tone mute with optical display
 - parallel call can be activated
 - integrated connection for floor door bell
 - optical indication of door calls
 - optical status indication if system is occupied (existing communication)
 - 2- and 3-wire technique
 - blue orientation LED (3-wire technique required)
 - audio privacy function
 - automatic call cut-off
 - electret capacitor microphone
 - audio and video indoor stations can be combined in the same installation
- Recommended installation: use an outlet box for wall luminaires

Technical Data

Ambient temperature: 0 ... 40 °C

	Ref.-no.
DCM Standard indoor station	
ivory	TK IS A 514 A W
white	TK IS A 514 A WW
aluminium	TK IS A 514 A AL
black	TK IS A 514 A SW
Dimensions (W x H x D): 58 x 129 x 21.5 mm	

DCM Conversion kit	TK IS 46074 AD KIT
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DCM Standard indoor station Design	
ivory	TK IS A 514 AD W
white	TK IS A 514 AD WW
aluminium	TK IS A 514 AD AL
black	TK IS A 514 AD SW
Dimensions (W x H x D): 80.5 x 151.5 x 21 mm	



DCM

Comfort indoor station

DCM Comfort indoor station

- acoustical and optical indication of door and internal calls
- hands-free operation with high audio quality (full-duplex)
- door release function
- switching light
- full-duplex operation
- AEC (Acoustic Echo Cancellation), electronic method for acoustic echo reduction
- automatic calibration of the ambient and network conditions
- hands-free operation
- internal call with automatically hands-free operation
- volume manually adjustable
- high-quality sound and great speaker dynamics
- high audio quality due to active noise suppression (noise and line echo cancellation)
- door release button
- automatic door release (main door)
- automatic door release (floor door)
- one push-button switches lighting (basic settings)
alternative assignment: control function, internal call, automatic door release, call diversion
- voice memory function for storing messages with a length up to 30 seconds
- 15 real sound ring tones (polyphone)
- 1 individual ring tone can be recorded with the internal microphone
- ring tone differentiation between main door, floor door and internal call
- sub door call: 4 bell buttons of the outdoor station can be assigned to 4 different ring tones of the indoor station
- ring tone differentiation of 2 outdoor stations
- ring tone volume manually adjustable
- ring tone mute with optical display
- optimised acoustics due to bass-reflex speaker system
- integrated connection for floor door bell
- optical indication of door calls
- optical status indication if system is occupied (existing communication)
- audio privacy function
- automatic call cut-off
- electret capacitor microphone
- audio and video indoor stations can be combined in the same installation
- connection: 3-wire technique
- installation in 1 flush-box acc. to DIN 49 073

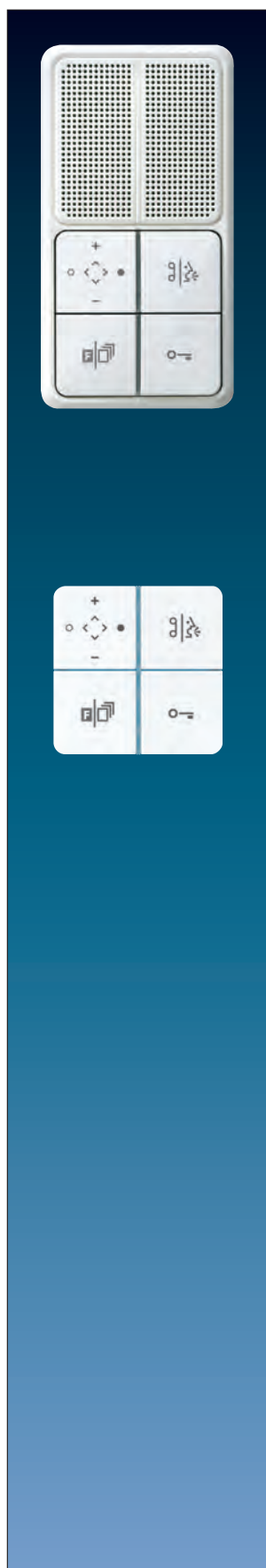
	Ref.-no.
DCM Comfort indoor station	
ivory	TK IS AS M 514 W
white	TK IS AS M 514 WW

DCM Comfort indoor station	
ivory	TK IS AC M 514 W
white	TK IS AC M 514 WW
aluminium	TK IS AC M 514 AL
black	TK IS AC M 514 SW

DCM Cover kit comfort	
ivory	TK IS A 514 TS W
white	TK IS A 514 TS WW
aluminium	TK IS A 514 TS AL
black	TK IS A 514 TS SW



Comfort indoor station



Ref.-no.

DCM Comfort indoor station

ivory	TK IS CD M 514 W
white	TK IS CD M 514 WW
brown	TK IS CD M 514 BR
grey	TK IS CD M 514 GR
light grey	TK IS CD M 514 LG
red	TK IS CD M 514 RT
black	TK IS CD M 514 SW

Metal versions (lacquered)

gold-bronze	TK IS CD M 514 GB
platinum	TK IS CD M 514 PT

DCM Cover kit comfort

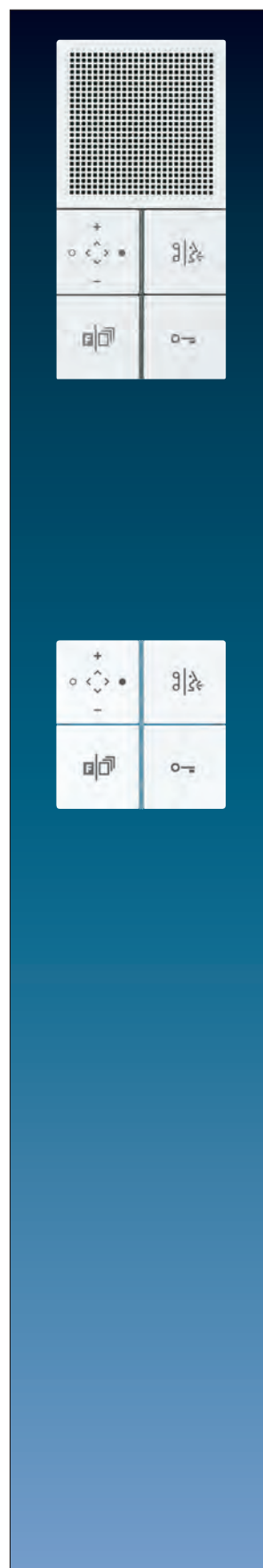
ivory	TK IS CD 514 TS W
white	TK IS CD 514 TS WW
brown	TK IS CD 514 TS BR
grey	TK IS CD 514 TS GR
light grey	TK IS CD 514 TS LG
red	TK IS CD 514 TS RT
black	TK IS CD 514 TS SW

Metal versions (lacquered)

gold-bronze	TK IS CD 514 TS GB
platinum	TK IS CD 514 TS PT

	Ref.-no.
DCM Comfort indoor station	
ivory	TK IS LS 914 W
white	TK IS LS 914 WW
light grey	TK IS LS 914 LG
black	TK IS LS 914 SW
Metal versions	
aluminium	TK IS AL 2914
stainless steel	TK IS ES 2914
anthracite (aluminium lacquered)	TK IS AL 2914 AN

DCM Cover kit comfort	
ivory	TK IS LS 914 TS W
white	TK IS LS 914 TS WW
light grey	TK IS LS 914 TS LG
black	TK IS LS 914 TS SW
Metal versions	
aluminium	TK IS AL 2914 TS
stainless steel	TK IS ES 2914 TS
anthracite (aluminium lacquered)	TK IS AL 2914 TS AN



DCM Video indoor station

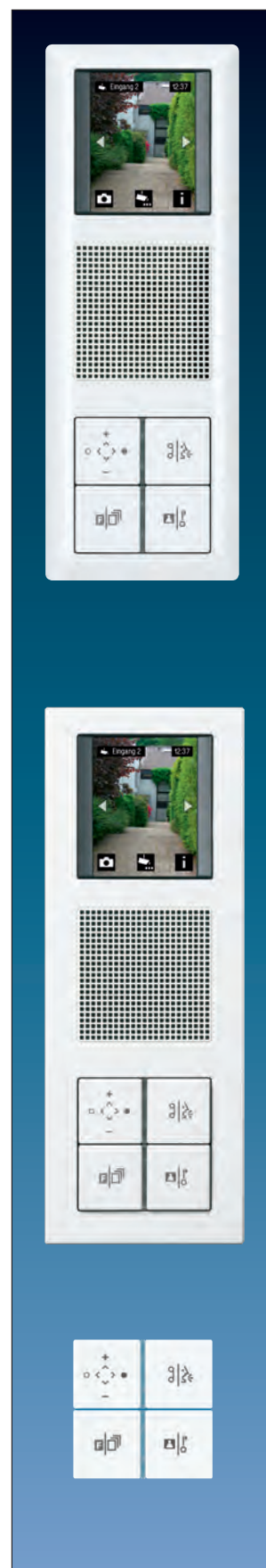
- TFT colour display, 2.8 "
- resolution 480 x 640 pixels
- free configurable menu
- complete menu navigation via touch screen, full text
e.g.: audio settings, video settings, colour, contrast, brightness, camera selection
- released bell button at the outdoor station enables storing of image with time stamp
- large image memory
- optical zoom, scrolling of visible display area possible
- acoustical and optical indication of door and internal calls
- hands-free operation with high audio quality (full-duplex)
- door release function
- switching light
- full-duplex operation
- AEC (Acoustic Echo Cancellation), electronic method for acoustic echo reduction
- automatic calibration of the ambient and network conditions
- hands-free operation
- internal call with automatically hands-free operation
- volume manually adjustable
- high-quality sound and great speaker dynamics
- high audio quality due to active noise suppression (noise and line echo cancellation)
- door release button
- automatic door release (main door)
- automatic door release (floor door)
- one push-button switches lighting (basic settings)
alternative assignment: control function, internal call, automatic door release, call diversion
- voice memory function for storing messages with a length up to 30 seconds
- 15 real sound ring tones (polyphone)
- 1 individual ring tone can be recorded with the internal microphone
- ring tone differentiation between main door, floor door and internal call
- sub door call: 4 bell buttons of the outdoor station can be assigned to 4 different ring tones of the indoor station
- ring tone differentiation of 2 outdoor stations
- ring tone volume manually adjustable
- ring tone mute with optical display
- optimised acoustics due to bass-reflex speaker system
- integrated connection for floor door bell
- optical indication of door calls
- optical status indication if system is occupied (existing communication)
- audio privacy function
- automatic call cut-off
- electret capacitor microphone
- audio and video indoor stations can be combined in the same installation
- recommended connection: 6-wire technique
- installation in 2 flush-boxes acc. to DIN 49 073

Expected availability: 4th quarter of 2009

	Ref.-no.
DCM Video indoor station	
ivory	TK ISV AS M 514 W
white	TK ISV AS M 514 WW

	Ref.-no.
DCM Video indoor station	
ivory	TK ISV AC M 514 W
white	TK ISV AC M 514 WW
aluminium	TK ISV AC M 514 AL
black	TK ISV AC M 514 SW

	Ref.-no.
DCM Cover kit video	
ivory	TK ISV A 514 TS W
white	TK ISV A 514 TS WW
aluminium	TK ISV A 514 TS AL
black	TK ISV A 514 TS SW



Video indoor station

Expected availability: 4th quarter of 2009



	Ref.-no.
DCM Video indoor station	
ivory	TK ISV CD M 514 W
white	TK ISV CD M 514 WW
brown	TK ISV CD M 514 BR
grey	TK ISV CD M 514 GR
light grey	TK ISV CD M 514 LG
red	TK ISV CD M 514 RT
black	TK ISV CD M 514 SW
Metal versions (lacquered)	
gold-bronze	TK ISV CD M 514 GB
platinum	TK ISV CD M 514 PT

DCM Cover kit video	
ivory	TK ISV CD 514 TS W
white	TK ISV CD 514 TS WW
brown	TK ISV CD 514 TS BR
grey	TK ISV CD 514 TS GR
light grey	TK ISV CD 514 TS LG
red	TK ISV CD 514 TS RT
black	TK ISV CD 514 TS SW
Metal versions (lacquered)	
gold-bronze	TK ISV CD 514 TS GB
platinum	TK ISV CD 514 TS PT

Expected availability: 4th quarter of 2009

	Ref.-no.
DCM Video indoor station	
ivory	TK ISV LS 914 W
white	TK ISV LS 914 WW
light grey	TK ISV LS 914 LG
black	TK ISV LS 914 SW
Metal versions	
aluminium	TK ISV AL 2914
stainless steel	TK ISV ES 2914
anthracite (aluminium lacquered)	TK ISV AL 2914 AN

DCM Cover kit video	
ivory	TK ISV LS 914 TS W
white	TK ISV LS 914 TS WW
light grey	TK ISV LS 914 TS LG
black	TK ISV LS 914 TS SW
Metal versions	
aluminium	TK ISV AL 2914 TS
stainless steel	TK ISV ES 2914 TS
anthracite (aluminium lacquered)	TK ISV AL 2914 TS AN



DCM

Outdoor station

DCM Outdoor station

- triggering of door calls
 - hands-free operation with high audio quality (full-duplex)
 - switching light
 - full-duplex operation in connection with comfort indoor station
 - half-duplex operation in connection 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 labelling illumination
 - fault analysis due to different flashing of the LED labelling illumination
 - fault differentiation due to acoustic feedback signal when pressing a bell button
 - weather-proof loudspeaker
 - compact, robust Aluminium housing
 - integrated dismantling 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 without access to flats possible
 - device configuration is saved on exchangeable EEPROM
 - DIP-switch settings:
 - number of required bell buttons
 - volume of acknowledge tone
 - brightness sensor threshold
 - time for door release
 - communication time
 - volume speaking/listening
 - electret capacitor microphone
 - audio and video stations can be combined in the same installation
 - inscription fields can be labelled with the JUNG labelling tool
 - connection: 3-wire technique
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- Installation height: 1.50 m
 - Temperature range: -20 °C ... +50 °C
 - Protection level: IP 44

Delivery without covers for bell buttons

Covers ref.-no.:

TK AS .. 01 T.. (1-gang)

TK AS .. 02 T.. (2-gang)

TK AS .. 04 T.. (4-gang)

Combination of covers see page 44

DCM Outdoor station

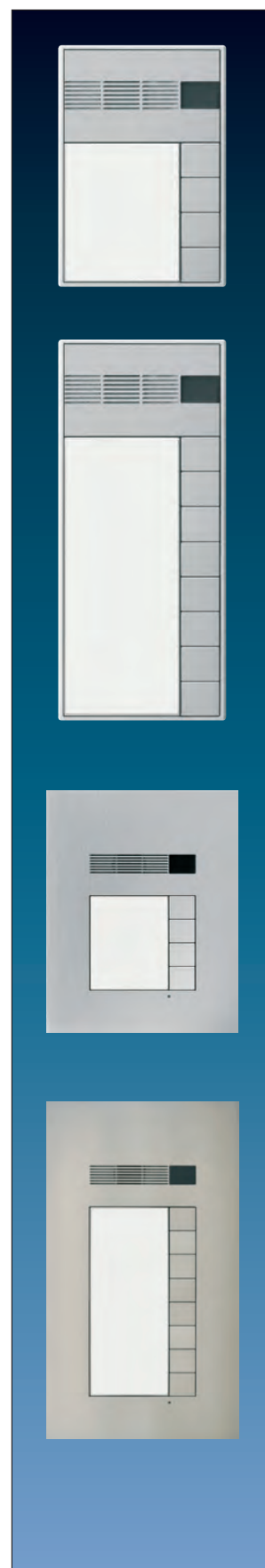
Expected availability: 4th quarter of 2009

	Ref.-no.
DCM Outdoor station	
white (aluminium lacquered)	TK AS AL 114 A WW
aluminium	TK AS AL 114 A
stainless steel (aluminium lacquered)	TK AS ES 114 A-L
Dimensions (W x H x D):	106.5 x 152.5 x 24.4 mm
Inscription field (W x H):	71 x 85 mm
Delivery without covers for bell buttons	
Combination of covers see page 44	

DCM Outdoor station	
white (aluminium lacquered)	TK AS AL 128 A WW
aluminium	TK AS AL 128 A
stainless steel (aluminium lacquered)	TK AS ES 128 A-L
Dimensions (W x H x D):	106.5 x 240.5 x 24.4 mm
Inscription field (W x H):	71 x 173 mm
Delivery without covers for bell buttons	
Combination of covers see page 44	

DCM Outdoor station	
white (aluminium lacquered)	TK AS AL 114 WW
aluminium	TK AS AL 114
stainless steel	TK AS ES 114
Dimensions (W x H x D):	Front plate 178.5 x 226 x 4 mm (thickness incl. gasket) DCM flush-mounted recessed box 134 x 183 x 40 mm
Inscription field (W x H):	71 x 85 mm
Delivery without covers for bell buttons	

DCM Outdoor station	
white (aluminium lacquered)	TK AS AL 128 WW
aluminium	TK AS AL 128
stainless steel	TK AS ES 128
Dimensions (W x H x D):	Front plate 178,5 x 314 x 4 mm (thickness incl. gasket) DCM flush-mounted recessed box 134 x 271 x 40 mm
Inscription field (W x H):	71 x 173 mm
Delivery without covers for bell buttons	
Combination of covers see page 44	



TKM Video outdoor station

- camera resolution: 1.3 MP
- detected area: 130° horizontal
- automatic screen adjustment
- automatic switch over between day and night
- infra red illumination during night operation
- automatic backlight compensation
- automatic white fader
- camera cover made of break-proof material
- triggering of door calls
- hands-free operation with high audio quality (full-duplex)
- switching light
- full-duplex operation in connection with comfort indoor station
- half-duplex operation in connection 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 labelling illumination
- fault analysis due to different flashing of the LED labelling 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 without access to flats possible
- device configuration is saved on exchangeable EEPROM
- DIP-switch settings:
 - number of required bell buttons
 - volume of acknowledge tone
 - brightness sensor threshold
 - time for door release
 - communication time
 - volume speaking/listening
- electret capacitor microphone
- audio and video stations can be combined in the same installation
- inscription fields can be labelled with the JUNG labelling tool
- connection: 6-wire technique
- Installation height: 1.50 m
- Temperature range: -20 °C ... +50 °C
- Protection level: IP 44

Delivery without covers for bell buttons

Covers see ref.-no.:

TK AS .. 01 T.. (1-gang)

TK AS .. 02 T.. (2-gang)

TK AS .. 04 T.. (4-gang)

Combination of covers see page 44

DCM

Video outdoor station

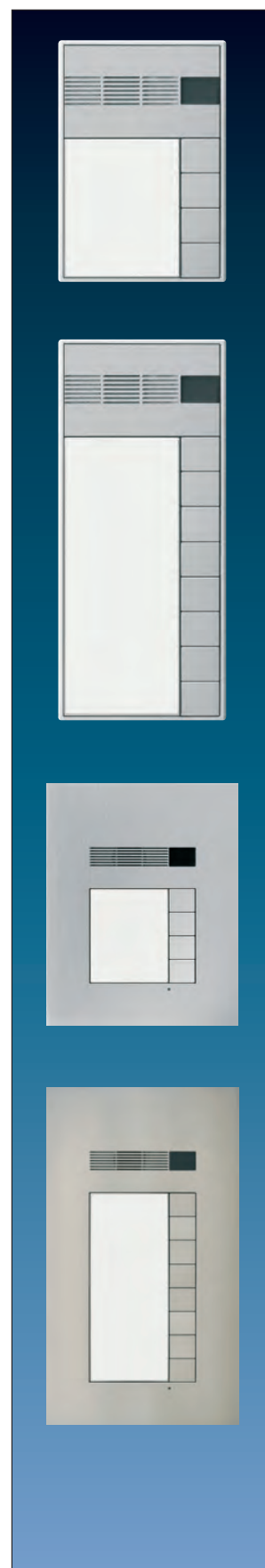
Expected availability: 4th quarter of 2009

	Ref.-no.
DCM Video outdoor station	
white (aluminium lacquered)	TK ASV AL 114 A WW
aluminium	TK ASV AL 114 A
stainless steel (aluminium lacquered)	TK ASV ES 114 A-L
Dimensions (W x H x D):	106.5 x 152.5 x 24.4 mm
Inscription field (W x H):	71 x 85 mm
Delivery without covers for bell buttons, combination of covers see page 44	

DCM Video outdoor station	
white (aluminium lacquered)	TK ASV AL 128 A WW
aluminium	TK ASV AL 128 A
stainless steel (aluminium lacquered)	TK ASV ES 128 A-L
Dimensions (W x H x D):	106.5 x 240.5 x 24.4 mm
Inscription field (W x H):	71 x 173 mm
Delivery without covers for bell buttons, combination of covers see page 44	

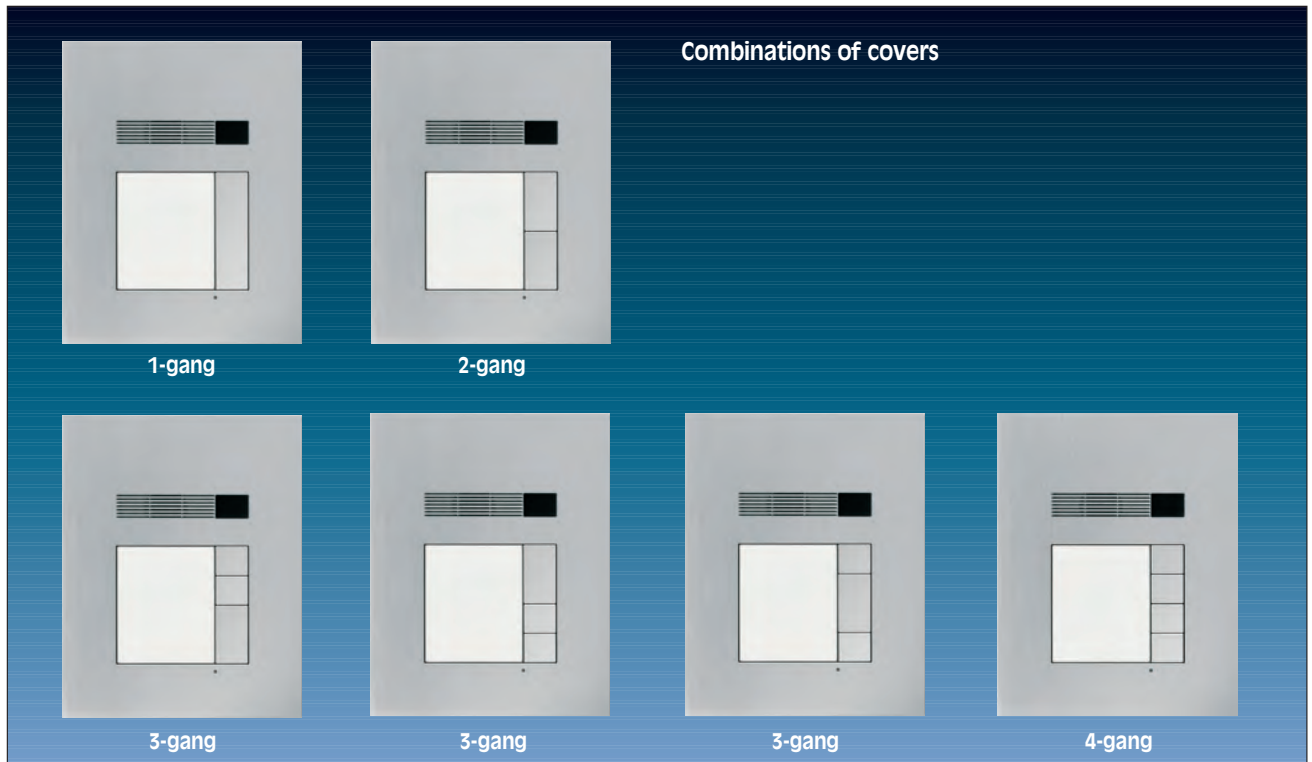
DCM Video outdoor station	
white (aluminium lacquered)	TK ASV AL 114 WW
aluminium	TK ASV AL 114
stainless steel	TK ASV ES 114
Dimensions (W x H x D):	Front plate 178.5 x 226 x 4 mm (thickness incl. gasket) DCM flush-mounted recessed box 134 x 183 x 40 mm
Inscription field (W x H):	71 x 85 mm
Delivery without covers for bell buttons, combination of covers see page 44	

DCM Video outdoor station	
white (aluminium lacquered)	TK ASV AL 128 A WW
aluminium	TK ASV AL 128 A
stainless steel (aluminium lacquered)	TK ASV ES 128 A-L
Dimensions (W x H x D):	Front plate 178.5 x 314 x 4 mm (thickness incl. gasket) DCM flush-mounted recessed box 134 x 271 x 40 mm
Inscription field (W x H):	71 x 173 mm
Delivery without covers for bell buttons, combination of covers see page 44	

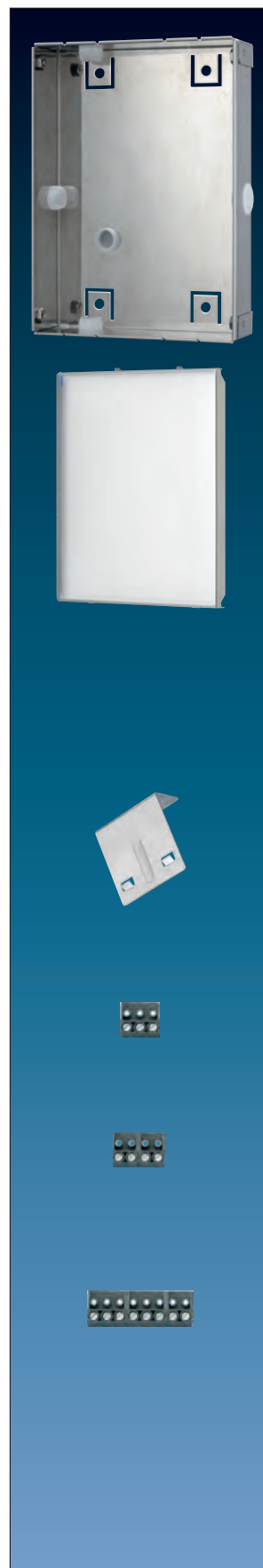




	Ref.-no.
DCM Cover 1-gang	
white (aluminium lacquered)	TK AS AL 01 T WW
aluminium	TK AS AL 01 T
for surface-mounted outdoor station	
stainless steel (aluminium lacquered)	TK AS ES 01 T-L
for flush-mounted outdoor station	
stainless steel	TK AS ES 01 T
DCM Cover 2-gang	
white (aluminium lacquered)	TK AS AL 02 T WW
aluminium	TK AS AL 02 T
for surface-mounted outdoor station	
stainless steel (aluminium lacquered)	TK AS ES 02 T-L
for flush-mounted outdoor station	
stainless steel	TK AS ES 02 T
DCM Cover 4-gang	
white (aluminium lacquered)	TK AS AL 04 T WW
aluminium	TK AS AL 04 T
for surface-mounted outdoor station	
stainless steel (aluminium lacquered)	TK AS ES 04 T-L
for flush-mounted outdoor station	
stainless steel	TK AS ES 04 T



	Ref.-no.
DCM Flush-mounted recessed box stainless steel	TK AS 114 EBG
DCM Flush-mounted recessed box stainless steel	TK AS 128 EBG
DCM Glass cover 1 – 4-gang	TK AS 4 NA
2 – 8-gang	TK AS 8 NA
DCM Foil for name-plate	TK 60 FO
DCM Opening tool ivory	TK AS 48 NA WZ
DCM Connection block 3-gang	TK 3 KB
DCM Connection block 4-gang	TK 4 KB
DCM Connection block 8-gang	TK 8 KB





Ref.-no.

DCM Power supply and control unit**TK SV STG 600 REG****for audio installations with one line**

Rail mounting device, 6 rail units

- for installations with one line
- door release function with integrated power supply:
12 V, 50/60 Hz (door release unit ≥ 6 W)
- light switching with floating relay contact
(make contact: DC 24 V / 1 A)
- door release time from 0.8 s up to 8 s manually adjustable
- turn-off delay for floating contact from 0.8 s up to 5 min manually adjustable
- line and P-terminal are short circuit protected
- high efficiency power supply
- controlling and displaying the operation mode of the DCM installation
- push-button for programming mode
- status/programming LED
- max. connectable components: 4 audio outdoor stations and 8+8 audio indoor stations

Technical Data

Input voltage:	AC 230 V~, 50/60 Hz
Output current:	a-terminal: 60 mA P-terminal: 600 mA
Output voltage:	DC 24 V
Max. loop resistance:	20 Ω
Permissible ambient temperature:	0 °C ... +40 °C
Electromagnetic compatibility:	according to EN 50 081 and EN 50 082-2
Radio interference suppression:	according to EN 55 011

**DCM Power supply and control unit****TK SV STG 60 REG****for video installations with one line**

Rail mounting device, 4 rail units

**Only in combination with DCM power supply extension ref.-no.: TK SV 2500 REG
for installations with max. 2.5 A permanent load**

- door release function with integrated power supply:
12 V, 50/60 Hz / (door release unit ≥ 6 Ω)
- light switching with floating relay contact:
(make contact, DC 24 V / 1 A)
- door release time from 0.8 s up to 8 s manually adjustable
- turn-off delay for floating contact from 0.8 s up to 5 min manually adjustable
- line and P-terminal are short circuit protected
- push-button for programming mode
- status/programming LED
- max. connectable components: 4 video outdoor stations and 8+8 video indoor stations

Technical Data

Input voltage:	AC 230 V~, 50/60 Hz
Output current:	a-terminal: 40 mA P-terminal: 60 mA
Max. loop resistance:	20 Ω
Permissible ambient temperature:	0 °C ... +40 °C
Electromagnetic compatibility:	according to EN 50 081 and EN 50 082-2
Radio interference suppression:	according to EN 55 011

Ref.-no.

DCM Power supply extension**TK SV 2500 REG**

for the extension of power supply and control unit ref.-no.: TK SV STG 60 REG
 Rail mounting device, 8 rail units

- short circuit protected (DC 26 V output)
- high efficiency power supply
- max. connectable components: 4 video outdoor stations and 8+8 video indoor stations

indication of operation mode

normal operation: LED green

overload: LED red

short circuit: LED flashes red

Technical Data

Input voltage:	AC 230 V~, 50/60 Hz
Output voltage:	DC 26 V
Output current:	2.5 A
Permissible ambient temperature:	0 °C ... +40 °C
Electromagnetic compatibility:	according to EN 50 081 and EN 50 082-2
Radio interference suppression:	according to EN 55 011

DCM Video switch 4-gang**TK VU 4 REG**

Rail mounting device, 6 rail units

- for the installation of up to 4 video / audio outdoor stations / cameras
- enables the selection of 1 of max. 4 cameras
- 6-wire technique required
- factory settings of outdoor station addresses: 1, 2, 3, 4 (manually adjustable or with service device)

Technical Data

Rated voltage:	DC 24 V (power supply and control unit)
Input current:	a-terminal: 0.4 mA P-terminal: 21 mA without load
Permissible ambient temperature:	0 °C ... +40 °C

DCM Video distributor 2-gang**TK VW 2 REG**

Rail mounting device, 4 rail units

- for the supply of 2 lines with video signals
- for the connection of 6-wire video systems
- output level for each output from 0 to +12 dB manually adjustable
- Frequency response compensation for each output from 0 to +12 dB manually adjustable

Technical Data

Rated voltage:	DC 24 V (power supply and control unit)
Input current:	I _a -terminal: 0.1 mA I _P -terminal: 60 mA without load
Max. input current:	I _P -terminal: 70 mA
Input/output impedance:	100 Ω balanced (jumper J1 plugged in)
Permissible ambient temperature:	0 °C ... +40 °C





Ref.-no.

DCM Video distributor 2-gang (flush-mounted)**TK VW 2 U**

- for the supply of 2 lines with video signals
- for the connection of 6-wire video systems
- output level for each output from 0 to +12 dB manually adjustable

Technical Data

Rated voltage:	DC 24 V (power supply and control unit)
Input current:	I _{a-terminal} : 0.1 mA I _{P-terminal} : 60 mA without load
Max. input current:	I _{P-terminal} : 70 mA
Input/output impedance:	100 Ω balanced (jumper J1 plugged in)
Permissible ambient temperature:	-20 °C ... +50 °C
Dimensions (W x H x D):	51 x 51 x 22 mm

DCM Door release relay (built-in)**TK TR 24 EB**

- for selective door release of more than one door in a DCM system
- for the connection to the R- and P-terminals of the outdoor station
- simple commissioning without service device
- no programming required

Technical Data

Rated voltage:	DC 24 V
Contact type:	floating relay contact
Switch type:	make/break contact, DC 24 V/2 A
Permissible ambient temperature:	-20 °C ... +50 °C
Dimensions (W x H x D):	28 x 34 x 8.5 mm
Wiring:	screw terminals
Single wire:	Ø 0.3 ... 1.4 mm

DCM Door release relay (flush-mounted)**TK TR 24 U**

- for selective door release of more than one door in a DCM system
- with separate BUS terminal for independent installation
- alternativ können auch Steuerfunktionen ausgewertet werden
- control functions can be evaluated as alternative
- door release time adjustable with service device (factory setting: 1 s)
- connection: 2 or 3-wire technique
- max. 10 devices with 2-wire technique
- programming only with the service device

Technical Data

Rated voltage:	DC 24 V
Contact type:	floating relay contact
Switch type:	make contact, DC 24 V/2 A
Max. input current:	12 mA
Permissible ambient temperature:	-20 °C ... +50 °C
Dimensions (W x H x D):	52 x 52 x 23 mm
Wiring:	screwless connection
Single wire:	Ø 0.4 ... 0.8 mm

Ref.-no.

DCM Binary input / output 1-gang (flush-mounted)**TK BRE 1 U**

- output for switch functions and input to trigger control functions, e.g. optical call indication
- input distinguishes open and close
- input requires the connection of a switch with floating contact
- parameters can be adjusted without additional devices:
 - factory setting of switching time: 1 second / manually adjustable and via the BRE configuration tool
 - triggering of switching time by means of: bell buttons of any outdoor station, floor bell button / door release button at any indoor station
- connection: 2 or 3-wire technique
- max. 3 devices with 2-wire technique

Technical Data

Contact type:	floating relay contact
Switch type:	make/break contact, AC 230 V, 50/60 Hz / 3 A
Input current (binary input):	2.5 mA
Input current (2-wire):	I _{a-terminal} : 1.5 mA without load
Input current (3-wire):	I _{a-terminal} : 0.4 mA
	I _{P-terminal} : 1.6 mA without load
	I _{Pmax} : 4.4 mA
Wiring:	M+, M-, a, b, P-terminal: screwless terminals
	max. diameter: 0.8 mm
	com, nc, no-terminal: screw terminals
	max. diameter: 1.4 mm
Permissible ambient temperature:	-20 °C ... +50 °C
Dimensions (W x H x D):	52 x 52 x 23 mm

DCM Service device**TK-SERVICE**

The service device is easy to operate. The device will be connected to the outdoor station to program a complete DCM system. You do not need access to the indoor stations or door relays.

- time saving commissioning of DCM systems
- "one-man programming" at the outdoor station
- simple trouble-shooting
- adjusting of special functions such as programming-lock, light switch function, call diversion etc.
- check the communication from the service device to the outdoor or indoor station
- check BUS voltage
- call suppression during maintenance at the DCM system
- software update for the service device possible

Technical Data

Max. input current:	13 mA
Permissible ambient temperature:	0 °C ... 40 °C
Dimensions (W x H x D):	50 x 200 x 50 mm

Note: The device needs to be unlocked by means of an activation key before it can be used!

Phone: +49.2355.806552

Fax: +49.2355.806255

E-mail: mail.vkm@jung.de



Terms and Conditions of Sale and Supply

I. General provisions

- 1) The mutual written declarations shall determine the scope of the supplies and services (hereinafter: supplies). However, General Terms and Conditions of Business on the part of the customer shall only apply insofar as we have expressly approved the same in writing.
- 2) We shall unrestrictedly reserve our exploitation rights under proprietary right and copyright law to cost estimates, drawings and other documents (hereinafter: documents). Such documents may only be rendered accessible to third parties with our prior consent and, upon request, shall, in the event that we should not be awarded the commission, be returned to us without delay. Sentences 1 and 2 shall apply mutatis mutandis to the customer's submissions, though such submissions may be rendered accessible to third parties to whom we have admissibly assigned responsibility for supplies.
- 3) Partial supplies shall be admissible insofar as the customer may be reasonably expected to accept the same.

II. Prices and Terms and Conditions of Payment

- 1) Prices shall be understood to be ex-works excluding packaging and plus the statutory sales tax obtaining at any given time.
- 2) Packaging shall be invoiced at the lowest possible prices and shall not be taken back.
- 3) Insofar as nothing is agreed to the contrary, payment shall, irrespective of the receipt of the goods involved, be made to us net within thirty days of the invoice date or within eight days with a 2 % discount. In the event that the payment deadline should be exceeded interest shall, without a reminder being required, be calculated pursuant to § 288 German Civil Code.
- 4) We shall be entitled to request advance payments in respect of the invoice amounts at any time prior to the dispatch of goods insofar as we deem such a step to be necessary. Should the customer default on the fulfilment of payment obligations or should the information pertaining to a customer no longer be satisfactory, we shall be entitled to request security for delivered goods or, once a payment deadline has been set, withdraw from the purchase contract.
- 5) The customer may only offset receivables which are undisputed or have been established on a legally binding basis.

III. Reservation of title

Goods shall be supplied subject to reservation of title involving the following extensions:

- 1) All supplied goods shall remain our property until such time as our claims vis-à-vis the customer, including any such claims which may arise from the business link in the future, are settled in full and for such time as the account, including the bill and cheque commitments, has not been settled. This shall also apply in the event that the purchase price for certain deliveries of goods specified by the customer is to be paid. In the case of a current account, the reserved title shall constitute security for our balance claim.
 - 2) The customer shall be revocable and, as long as they fulfill their obligations vis-à-vis ourselves and affording consideration to the following provisions, entitled to sell and process during the normal course of business goods which are encumbered with reservation of title. However, the customer shall be forbidden from pledging or assigning as security goods subject to reservation of title which are supplied or processed. The customer shall, insofar as this is compatible with commercial practices, likewise undertake only to resell reserved goods which we have supplied in conjunction with reservation of title. Upon justified request and in the case of default, the customer shall be obliged to apprise us of the name of the third party customer.
 - 3) Insofar as goods encumbered with reservation of title are processed, such processing shall, though without any guarantee on our part, be effected for us. In the event of processing by the customer in conjunction with goods which are not our property, we shall be entitled to co-ownership of the new object at the ratio of the value of the reserved goods to the other processed goods on the processing date.
 - 4) In the event that goods which we have supplied should be combined with other goods, we shall acquire co-ownership of the amount of the ratio of the value of the reserved goods in the combination date.
 - 5) Should the customer sell reserved goods which we have supplied or should such goods be supplied to a third party – irrespective of what value or in which condition – or should such goods be installed within the framework of a work, work performance or a construction contract, the customer shall, until such time as the claims stipulated in sub-section 1) are settled in full, hereby assign to us, to the amount of the invoice value of our deliveries, the claim, together with all ancillary rights, including the compensation claims accruing to them from the legal transaction involving the resale or installation, accruing to them vis-à-vis their customer or buyer from such sale, delivery or instalment.
- In the event of an assignment being obtained in such work, work performance or construction contract and in the event of payment default, the customer shall undertake to apprise their third party customers of the advance assignment.
- 6) In the event that reserved goods which we have supplied should be sold to third parties in conjunction with other goods, we shall be assigned that proportion of the total asking price corresponding to the invoice value of our deliveries.
 - 7) The reservation of title with the extensions pursuant to the above provision shall also remain in force in the event of individual claims against their customer on the part of the customer being included in the current account. In this case, the customer shall, at this early juncture, assign to us the balance obtaining to their credit. The customer shall, upon request and particularly in the event of payment default on the part of the purchaser, be obliged to facilitate the direct assertion of the claims involved and apprise the third party debtor of the assignment.
 - 8) We shall be appraised without delay of any attachment and every kind of restriction which obtain in respect of our property. In the event that the value of the overall collateral stemming from the business link with which we have been furnished should exceed our delivery claims by more than 20 %, we shall, at the request of the purchaser, be obliged to reassign the assigned claims to such extent.
 - 9) In the event of any incidence of damage or other impairment to the equipment supplied on the basis of our terms and conditions, the purchaser shall, at this early juncture, assign to us in advance the compensation claim accruing to them vis-à-vis the insurer from their insurance to the amount of the incidence of damage in question to our reserved property.

IV. Deadline for deliveries; default

- 1) The deadline for deliveries or services shall commence on the day on which written agreement pertaining to the order in question obtains between the customer and ourselves. The observance of such deadline shall presuppose the prompt receipt of all the documents, requisite licences and releases to be furnished by the customer, the prompt clarification and approval of the plans and the observance of the agreed Terms of Conditions of Payment and other obligations. Should these prerequisites not be fulfilled on time, the delivery deadline shall be extended by an adequate period of time; this shall not apply in the event that we should be responsible for a delay.
 - 2) Should the non-observance of deadlines be attributable to force majeure, such as mobilization, war civil commotion or similar occurrences, e.g. strike or lockout, delivery deadlines shall be extended by adequate periods of time.
 - 3) In the event that dispatch or delivery should, at the behest of the customer, be delayed by more than one month following notification of dispatch readiness, the customer may, for every started month, be invoiced storage costs to the amount of 0.5 % of the price of the delivery objects, though no more than a total of 5 %.
- The contracting parties shall be at liberty to prove that lower or higher storage costs have accrued.

V. Transfer of risk

The risk shall also pass to the customer in the event that carriage paid delivery should have been agreed. In the absence of a written arrangement to the contrary, dispatch shall always be effected according to our best judgement. We shall not assume any responsibility for transportation at market prices. We shall only arrange transport insurance policies the costs of which are borne by the purchaser upon express, written agreement.

VI. Acceptance

The customer may not refuse to accept deliveries on the grounds of the existence of minor defects.

VII. Material defects

- 1) The prerequisite for the assertion of material defects liability shall be the submission to us or our authorized representative of proof of acquisition (delivery note, invoice, etc.). The warranty entitlement may not be transferred to third parties without our consent.
 - 2) All those components or services shall, as we see fit, be repaired, resupplied or refurbished which feature a material defect within the limitation period – irrespective of operating life – insofar as the origin of the same obtained at the point in time of transfer of risk.
 - 3) Material defects claims shall lapse after twelve months. This shall not apply insofar as the law pursuant to §§ 438, paragraph 1, no. 2 (constructions and objects for constructions), 479, paragraph 1 (claim under a right of recourse) and 634a, paragraph 1, no. 2 (construction defects) German Civil Code makes provision for longer periods of time, in instances of injury to life, body or health, in the event of a wilful or grossly negligent breach of duty on our part and in the event of the malicious non-disclosure of a defect. The statutory provisions pertaining to the suspension of the running of a period, suspension and recommencement of periods shall remain unaffected.
 - 4) The customer shall submit complaints pertaining to material defects to us in writing without delay.
 - 5) In the event of notifications of defects, payment on the part of the customer may be withheld on a scale which is in a reasonable ratio to the material defects which have occurred. The customer may only withhold payments should a complaint be asserted the justification of which is beyond doubt. Should a complaint have been submitted without justification, we shall be entitled to request that the customer reimburse the costs which we incurred.
 - 6) In the first instance, we shall be granted the opportunity to effect subsequent fulfilment within a reasonable period of time.
 - 7) Should such subsequent fulfilment be unsuccessful, the customer – any compensation claims pursuant to sub-section IX notwithstanding – may withdraw from the contract or reduce the amount of payment.
 - 8) Claims arising from defects shall not obtain in respect of a minor deviation from an agreed quality, a minor impairment to usefulness, natural wear and tear or incidences of prejudice which arise subsequent to the risk transfer in consequence of faulty or negligent handling, excessive strain, unsuitable operating facilities, faulty construction operations, unsuitable subsoil and, in particular, any external influences which are not presupposed by the contract, as well as in respect of non-reproducible software defects. In the event that modifications or maintenance operations should be improperly performed by the customer or any third parties, it shall likewise be the case that no claims arising from defects shall obtain for such modifications and maintenance operations or any resulting consequences.
 - 9) Any claims on the part of the customer for expenditure which it is necessary to incur for subsequent fulfilment purposes, particularly transport, travelling, labour and material costs, shall be excluded insofar as such expenditure increases due to the fact that a delivery object has been subsequently transported to a location other than the customer's business premises unless such transportation is in line with the normal utilization of such object.
 - 10) Claims under rights of recourse vis-à-vis ourselves on the part of the customer pursuant to § 478 German Civil Code (contractor's recourse) shall only obtain insofar as the customer has not agreed any arrangements with their customer exceeding the scope of the statutory claims arising from defects.
- No. 9 shall additionally apply mutatis mutandis to the scope of the customer's claim under a right of recourse vis-à-vis ourselves pursuant to § 478, paragraph 1 German Civil Code.
- 11) It should be noted that sub-section IX (other compensation claims) shall apply to compensation claims. Any more far-reaching claims for a material defect against us and our vicarious agents on the part of the customer and any claims for a material defect against us and our vicarious agents on the part of the customer other than those stipulated in sub-section VII shall be excluded.

VIII. Impossibility, contractual revision

- 1) Insofar as a delivery is impossible the customer shall be entitled to claim compensation unless we are not responsible for such impossibility. However, the customer's entitlement to compensation shall be restricted to 10 % of the value of that component of the delivery which cannot be put into appropriate operation in consequence of such impossibility. This entitlement shall not apply insofar as, in cases of wilful intent, gross negligence or injury to life, body or health, compulsory liability obtains; this shall not entail a change in the burden of proof to the detriment of the customer.
- The right of the customer to withdraw from the contract shall remain unaffected.
- 2) Insofar as any unforeseeable occurrences within the purport of sub-section IV, no. 2 considerably alter the economic importance or the object of a delivery or exercise a major influence on our operations, the contract shall be suitably revised in compliance with the principle of good faith. Insofar as this is not economically justifiable, we shall be entitled to withdraw from the contract. In the event that we should wish to exercise this right of withdrawal, we shall apprise the customer accordingly without delay upon becoming cognizant of the implications of the occurrence in question, including in the event that an extension of the delivery period should initially have been agreed with the customer.

IX. Other compensation claims

- 1) Claims for compensation and claims for the compensation of expenses (hereinafter: compensation claims), irrespective of on which legal grounds, particularly for a breach of the duties arising from the contractual obligation and for tortious acts, shall be excluded.
- 2) This shall not apply insofar as compulsory liability obtains, e.g. pursuant to the Product Liability Act, in cases of wilful intent, gross negligence, injury to life, body or health and a breach of major contractual obligations. However, a claim to compensation for a breach of major contractual obligations shall be restricted to the contractually typical, foreseeable prejudice insofar as wilful intent or gross negligence do not obtain or liability obtains due to injury to life, body or health. The above stipulations shall not entail a change in the burden of proof to the detriment of the customer.
- 3) Insofar as the customer is entitled to compensation claims pursuant to sub-section IX, such claims shall lapse upon the expiry of the limitation period pursuant to sub-section VII, no. 3 applying to claims for material defects. In the case of compensation claims pursuant to the Product Liability Act, the prevailing statutory limitation provisions shall apply.

X. Diagrams, measurements and weights

Diagrams, measurements and weights shall always be regarded as approximate.

XI. Place of performance, place of jurisdiction and applicable law

- 1) Insofar as nothing to the contrary is agreed, the place of performance shall be Schalksmühle.
- 2) In the event of the customer being a businessman, the sole place of jurisdiction for all disputes arising directly or indirectly from the contractual relationship shall be Hagen. However, we shall also be entitled to institute legal proceedings at the place of domicile of the customer.
- 3) German substantive law shall, to the exclusion of the UN Convention on Contracts pertaining to the International Sale of Goods (CISG), apply to the legal relations obtaining in connection with this contract.

XII. The remaining provision of the contract shall continue to have binding force even in the event of the legal invalidity of any of the individual provisions contained in the same. This shall not apply in the event of adherence to the contract constituting unreasonable hardship for one of the contracting parties.

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DCM Basics

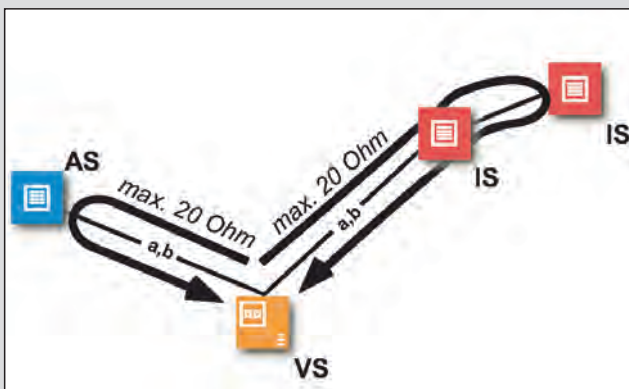
Table: Loop resistance

Wire length in m	Cross section	
	0.6 mm	0.8 mm
	Loop resistance in Ω	
10	1.22	0.69
20	2.45	1.38
30	3.67	2.07
40	4.90	2.76
50	6.12	3.44
60	7.35	4.13
70	8.57	4.82
80	9.80	5.51
90	11.02	6.20
100	12.24	6.89
150	18.37	10.33
200	24.49	13.78
250		17.22
300		20.66

Principle of loop resistance

Rule:

No door communication device shall have a longer distance from the power supply & control unit than 20 Ohm !



20 Ohm:

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

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

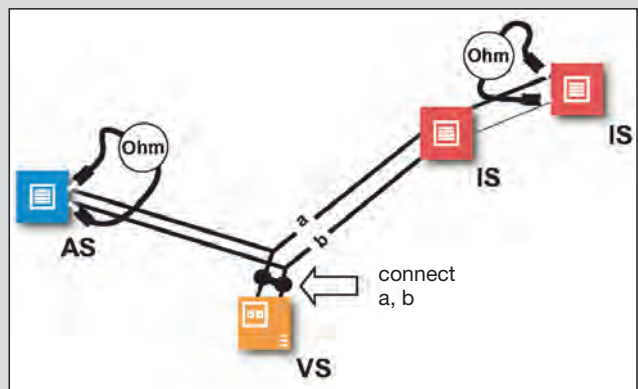
Measuring loop resistance

Rule:

Turn OFF 230 V 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

Explanation of terms and definitions

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.
Sub door call	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).
Voice memo-function	Record and play a voice memo (message) up to a length of 30 s.
Hands-free operation	Simultaneous communication in both directions. (Full duplex)
Parallel call	A second indoor station can be programmed to a bell button of the outdoor station.
Parallel function	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.
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 assignment button. The illuminated LED of the assignment 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. Die 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	A communication between indoor and outdoor station can only be activated after an incoming door call.
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 assignment button of the indoor station. The LED of the assignment button indicates the status. LED ON = automatic door release activated LED OFF = automatic door release deactivated