Door communication
Catalogue 2016/2017

:hager

The reliable partner for intelligent solutions.

There's lots of work to do. Let's get started.

There is no better time for electrotechnical redevelopment and intelligent solutions.

Dear friends and partners,

We all value experience, because it helps us to be fast and reliable. Routine saves us a great deal of time, money and sweat. But there are also moments when we have to stray from the well-worn paths. Sometimes there are golden opportunities just waiting to be discovered and seized.

This is one of those moments.

With renewable energy sources and innovative building technologies, we have the opportunity to make homes more intelligent and energy-efficient. And with Ambient Assisted Living (AAL) solutions, we will be able to help older people and those who require special care to live safely and independently in the future.
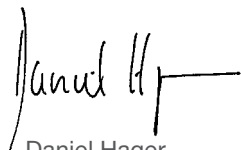
To do this, recent studies show that many properties will first have to be made suitable for the solar systems, energy storage units and intelligent building controls that characterise smart homes.

All of this requires specialists. There's lots of work to do. Let's get started.

At the Hager Group, we will support you with the best products, solutions and services imaginable. And we are constantly evolving too: over 800 of my colleagues are working on better products and innovative technologies which will make your work easier and your customers' lives more comfortable. In the future, we will also have a stronger focus on services in order to provide you and your customers with expert support.

When it comes to change, we practise what we preach. And we rely on expert partners like you to help us set the pace for this change. That's why I'm looking forward to our shared future – it's starting right now.

Sincerely,

Daniel Hager
CEO of the Hager Group

Under one roof

One family

The world is changing, and we are changing with it. As a family company, we have been constantly evolving over the last six decades, growing in size and becoming a reliable partner for specialist craftsmen and electrical wholesalers all over the world. At the same time, however, we have remained true to ourselves and to our values. And so it is today, with a series of well-known brands – each with their own distinctive strengths – working together under the umbrella of the Hager Group.

The new Hager Forum in Obernai, Alsace, is a place where we can work with customers and partners to shape the future. That makes it a perfect symbol for the innovative power of the Hager Group.

hagergroup

Your trust

As a partner and customer, you have access to the products and services offered by every member of our brand family. Our new corporate image helps to demonstrate our shared strength more clearly. From now on, each of our brands will be easily recognisable as a „Member of Hager Group". The new corporate image also involves some changes to certain colours and designs. The key thing, however, will not change: we will keep working with you to evolve and succeed.

Our strength

There are huge opportunities ahead of us. The upcoming modernisation of existing buildings, intelligent building technology, digital services, new energy sources and technologies – all of this opens up new, exciting potential for you and for us. At the same time, business requirements are becoming more and more complex. That's why it's so important for you to have the Hager Group specialists supporting you with all of their expertise. Together, we are strong. Together, we will overcome the complex challenges of our time with simple, convincing solutions – just as we have been doing for the last six decades.

E3

Global warming, a shortage of natural resources, the energy transition, social cohesion... there are numerous challenges facing both companies and society. In order to promote sustainable development, the Hager Group is pursuing various initiatives which are grouped under the E3 approach.

Environ

E for environment

We are constantly working to reduce our ecological footprint. Our priorities include optimising the transportation of our products and cutting the amount of energy we use in production in order to further reduce our CO_2 emissions.

Ethics

E for ethics

It is crucial that we have skilled, motivated and healthy employees in order to offer our customers the best services and products.

That's why we provide all our employees with a safe, healthy work environment, support their professional growth and offer them opportunities for further development. Furthermore, we promote diversity throughout our workforce and ensure that ethical principles are adhered to.

ment

Energy

E for energy

The Hager Group offers its customers intelligent, environmentally friendly solutions which enable them to reduce the energy consumption of their properties.

At the same time, we analyse and optimise the ecological performance of our products throughout the development and production phase. By ensuring that our products have a detailed environmental profile, we provide ourselves and our customers with transparent information about the ecological impact of a product.

Technology
is your friend

Hager Design turns technical products into everyday friends.

Before we start designing a new product, we think about the people it is going to serve. Will it serve as an assistant or entertainer, an observer or protector, a time-saver or energy-saver? Ideally, whatever it is, it will also be a reliable "friend".
To do this, we need to know what it is that moves people. Because that's the only way to ensure that they are moved by our products.

Erwin van Handenhoven
Hager Group Design Director

From people to technology
Responsible design stems from an ethical attitude. At Hager, this attitude is all about respecting people and caring about their well-being. But as well as wanting to ensure our customers' welfare, we also want to inspire them for years to come. That's why we include them in the design process from the beginning – from the installer to the planner to the end consumer.

Brand image
Hager products are known all over the world for their quality. We make this quality visible and tangible through the design. This gives our products a brand image – clear, precise, unmistakeable. In this way, customers can tell straight away if a product belongs to "the family". This is effectively the Hager signature which displays our DNA to the world. It embodies two central principles.

Friendly, serene, balanced: an honest, authentic design which blends naturally into everyday life. With no loud gadgets or cheap effects.
Ingeniously simple: our products are important,

but never overloaded. If it's not necessary, we leave it out. What remains is the essential. Accomplished in terms of both form and function: simple to install, simple to use. Simply Hager!

Looking ahead to the future
Hager systems are not simply treading water – they are becoming more and more visible. This has consequences for our future design. We are calling it "New Start". The aim of New Start is to take hold of our customers and carry them with us into the future: with innovative ideas, new designs and expressive materials. The new Hager catalogue is full of "New Starters" – alongside lots of "old friends".
What will you discover?

2-wire technology

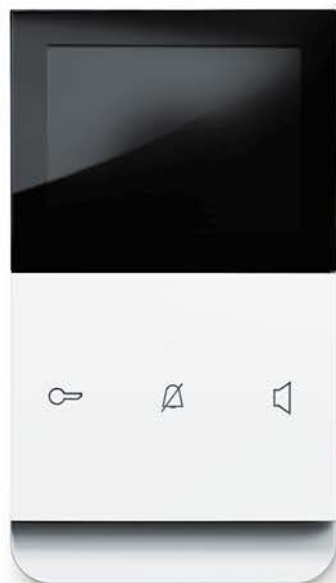A tried-and-tested system: 2-wire technology transfers video, sound and control commands via just two wires. Calling, seeing, speaking, opening – a 2-wire system with a line coupler can connect 150 outdoor stations and 256 indoor stations. Due to the low number of components, this technology enables cost-effective solutions which are ideal for new systems, retrofits and renovations.
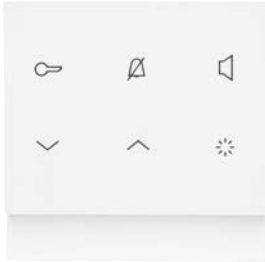
01

2-wire technology

REK221X

IP30

ELCOM.TOUCH audio indoor stations kit

Dimensions (W x H x D):	93/92.5/16 mm
Operating temperature:	5 to 50 °C
Operating voltage via bus:	22 to 24 V DC

- 6 function buttons with symbols, 3 are illuminated
  (release door, mute ring tone, call/speak)
- 16 ring tone melodies
- door call, storey call or internal call assignment
- shut-off button for ring tone, with status LED
- ring tone volume and microphone sensitivity can be
  adjusted incrementally

- hands-free or Push-to-Talk
- acoustic and optical call signalling
- storey call forwarding to identically addressed
  indoor stations
- parallel call (up to 3 indoor stations in parallel operation)
- internal call to other indoor stations
- special functions lockable using DIP-switches
- connection terminal block with screw terminals
- rotary coding switch (one-man commissioning)

Description	Colour	PU	Order no.
Indoor station audio angular surface-mounted 2-wire	polar white, glossy	1	**REK221X**

REA121X

IP30
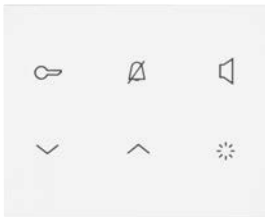
ELCOM.TOUCH audio indoor stations

Dimensions without frame (W x H x D):	93/74.5/16 mm
Operating temperature:	5 to 50 °C
Operating voltage via bus:	22 to 24 V DC

- 6 function buttons with symbols, 3 are illuminated
  (release door, mute ring tone, call/speak)
- 16 ring tone melodies
- door call, storey call or internal call assignment
- shut-off button for ring tone, with status LED
- ring tone volume and microphone sensitivity can be
  adjusted incrementally

- hands-free or Push-to-Talk
- acoustic and optical call signalling
- storey call forwarding to identically addressed
  indoor stations
- parallel call (up to 3 indoor stations in parallel operation)
- internal call to other indoor stations
- special functions lockable using DIP-switches
- connection terminal block with screw terminals
- rotary coding switch (one-man commissioning)

Description	Colour	PU	Order no.
Indoor station audio surface-mounted 2-wire	white, glossy	1	**REA122X**
Indoor station audio surface-mounted 2-wire	white, matt, lacquered	1	**REA112X**
Indoor station audio surface-mounted 2-wire	polar white, glossy	1	**REA121X**
Indoor station audio surface-mounted 2-wire	polar white, matt	1	**REA111X**
Indoor station audio surface-mounted 2-wire	black, glossy	1	**REA125X**
Indoor station audio surface-mounted 2-wire	anthracite, matt, lacquered	1	**REA114X**
Indoor station audio surface-mounted 2-wire	aluminium, matt, lacquered	1	**REA113X**

WD1219

ELCOM.TOUCH audio frame angular

Description	Colour	PU	Order no.
Design frame, angular	white, glossy	1	**WD1219**
Design frame, angular	white, matt	1	**WD1212**
Design frame, angular	polar white, glossy	1	**WD1221**
Design frame, angular	polar white, matt	1	**WD1211**
Design frame, angular	black, glossy	1	**WD1225**
Design frame, angular	anthracite, matt	1	**WD1217**
Design frame, angular	aluminium, matt, lacquered	1	**WD1213**
Design frame, angular	aluminium, metal matt-finished	1	**WD1253**
Design frame, angular	stainless steel, metal matt-finished	1	**WD1263**
Design frame, angular	stainless steel, metal brushed	1	**WD1243**
Design frame, angular	glass, polar white	1	**WD1231**
Design frame, angular	glass, aluminium	1	**WD1233**
Design frame, angular	glass, black	1	**WD1235**

2-wire technology

ELCOM.TOUCH audio frame round

Description	Colour	PU	Order no.
Design frame, rounded	white, matt	1	**WD1112**
Design frame, rounded	polar white, glossy	1	**WD1121**
Design frame, rounded	polar white, matt	1	**WD1111**
Design frame, rounded	black, glossy	1	**WD1125**
Design frame, rounded	anthracite, matt	1	**WD1117**
Design frame, rounded	aluminium, matt, lacquered	1	**WD1113**
Design frame, rounded	aluminium, metal matt-finished	1	**WD1153**
Design frame, rounded	stainless steel, metal matt-finished	1	**WD1163**
Design frame, rounded	glass, polar white	1	**WD1131**
Design frame, rounded	glass, black	1	**WD1135**
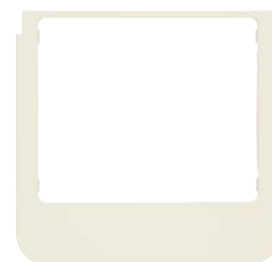
WD1112

ELCOM.TOUCH video indoor stations kit

Display diagonal:	8.9 cm (3.5")
Resolution of graphical display:	320 x 240 px
Dimensions (W x H x D):	93/163.5/16 mm
Power consumption (operation):	5 W
Operating temperature:	5 to 50 °C
Operating voltage via bus:	22 to 24 V DC

- 3 function buttons with illuminated symbols for: release door, mute ring tone, call/speak
- Touch (capacitive) with mechanical feedback
- 16 ring tone melodies
- door call, storey call or internal call assignment
- shut-off button for ring tone, with status LED
- illuminated TFT colour display
- display of moving camera pictures from video door stations or external cameras
- icon bar for displaying menu button assignment
- Display brightness and contrast can be adjusted in stages

- ring tone volume and microphone sensitivity can be adjusted incrementally
- hands-free or Push-to-Talk
- acoustic and optical call signalling via LED and display
- storey call forwarding to identically addressed indoor stations
- parallel call (up to 3 indoor stations in parallel operation)
- internal call to other indoor stations
- manual swicth on/change-over of cameras
- special functions and extended menu lockable using DIP-switches
- outgoing calls to door stations with display of the door address
- connection terminal block with screw terminals
- rotary coding switch (one-man commissioning)

REK621X

IP30

Description	Colour	PU	Order no.
Indoor station video angular surface-mounted 2-wire	polar white, glossy	1	**REK621X**

ELCOM.TOUCH video indoor stations

Display diagonal:	8.9 cm (3.5")
Resolution of graphical display:	320 x 240 px
Power consumption (operation):	5 W
Operating temperature:	5 to 50 °C
Operating voltage via bus:	22 to 24 V DC

- 3 function buttons with illuminated symbols for: release door, mute ring tone, call/speak
- Touch (capacitive) with mechanical feedback
- 16 ring tone melodies
- door call, storey call or internal call assignment
- shut-off button for ring tone, with status LED
- illuminated TFT colour display
- display of moving camera pictures from video door stations or external cameras
- icon bar for displaying menu button assignment
- Display brightness and contrast can be adjusted in stages
- ring tone volume and microphone sensitivity can be adjusted incrementally

- hands-free or Push-to-Talk
- acoustic and optical call signalling via LED and display
- floor call forwarding to identically addressed indoor stations
- 3 menu operation buttons for settings and for triggering the functions appearing in the display
- menu access and change-over by horizontal swipe movement on the touch user interface
- parallel call (up to 3 indoor stations in parallel operation)
- internal call to other indoor stations
- manual swicth on/change-over of cameras
- special functions and extended menu lockable using DIP-switches
- outgoing calls to door stations with display of the door address
- connection terminal block with screw terminals
- rotary coding switch (one-man commissioning)

REA522X

IP30

| Description	Colour	PU	Order no.
Indoor station video surface-mounted 2-wire	white, glossy	1	**REA522X**
Indoor station video surface-mounted 2-wire	white, matt	1	**REA512X**
Indoor station video surface-mounted 2-wire	polar white, glossy	1	**REA521X**
Indoor station video surface-mounted 2-wire	polar white, matt	1	**REA511X**
Indoor station video surface-mounted 2-wire	black, glossy	1	**REA525X**
Indoor station video surface-mounted 2-wire	anthracite, matt, lacquered	1	**REA514X**
Indoor station video surface-mounted 2-wire	aluminium, matt, lacquered	1	**REA513X**

WD2219

ELCOM.TOUCH video frame angular

Description	Colour	PU	Order no.
Design frame angular, large version	white, glossy	1	**WD2219**
Design frame angular, large version	white, matt	1	**WD2212**
Design frame angular, large version	polar white, glossy	1	**WD2221**
Design frame angular, large version	polar white, matt	1	**WD2211**
Design frame angular, large version	black, glossy	1	**WD2225**
Design frame angular, large version	anthracite, matt	1	**WD2217**
Design frame angular, large version	aluminium, matt, lacquered	1	**WD2213**
Design frame angular, large version	aluminium, metal matt-finished	1	**WD2253**
Design frame angular, large version	stainless steel, metal matt-finished	1	**WD2263**
Design frame angular, large version	stainless steel, metal brushed	1	**WD2243**
Design frame angular, large version	glass, polar white	1	**WD2231**
Design frame angular, large version	glass, aluminium	1	**WD2233**
Design frame angular, large version	glass, black	1	**WD2235**

WD2112

ELCOM.TOUCH video frame round

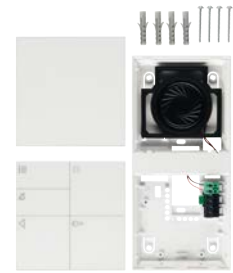| Description	Colour	PU	Order no.
Design frame rounded, large version	white, matt	1	**WD2112**
Design frame rounded, large version	polar white, glossy	1	**WD2121**
Design frame rounded, large version	polar white, matt	1	**WD2111**
Design frame rounded, large version	black, glossy	1	**WD2125**
Design frame rounded, large version	anthracite, matt	1	**WD2117**
Design frame rounded, large version	aluminium, metal matt-finished	1	**WD2153**
Design frame rounded, large version	stainless steel, metal matt-finished	1	**WD2163**
Design frame rounded, large version	glass, polar white	1	**WD2131**
Design frame rounded, large version	glass, black	1	**WD2135**

Indoor station AUDIO comfort

Dimensions (W x H x D):   96/196/20 mm
Operating temperature: 5 to 40 °C
Operating voltage via bus: 19 to 25 V DC

Additional functions offered by comfort version
- Concierge call
- Automatic door release
- Switching functions
- Programmable integrated switching relay

- for call/speak for door release for call switch off,
  with status LED for hallway light for menu navigation
- capacitive buttons with blue status LED
- 16 ring tone melodies
- door call, storey call or internal call assignment
- sound volume for ring tone melody and control button tone
  continuously adjustable
- microphone sensitivity continuously adjustable
- full duplex hands-free mode
- acoustic and optical call signalling
- automatic display switch off after 3 minutes
- call waiting during current call
- parallel operation of up to 3 indoor stations

- storey call forwarding to identically addressed
  indoor stations
- automatic door release (automatic door release)
- floor door release automatic
- floor door release automatic via integrated relay
- direct door release
- call forwarding to another indoor station
- parallel call
- i2-BUS relay
- internal relay on the terminals KK
- internal call
- internal call F
- internal connection
- manual ON of the configured door station
- privacy function
- device configuration lockable via DIP-switch
- keylock for cleaning mode
- for floor call push-button
- at integrated relay contact 24 V/1 A
- for optional additional infeed

REA159X

IP30

Description	Colour	PU	Order no.
Indoor station AUDIO comfort surface-mounted 2D video	white, glossy	1	**REA159X**

Indoor station VIDEO comfort

Display diagonal: 8.9 cm (3.5")
Resolution of graphical display: 320 x 240 px
Dimensions (W x H x D):   96/196/20 mm
Power consumption (operation):   4 W
Operating temperature: 5 to 40 °C
Operating voltage via bus: 19 to 25 V DC

Additional functions offered by comfort version
- Concierge call
- Automatic door release
- Switching functions
- Programmable integrated switching relay

- for call/speak for door release for call switch off, with status
  LED for hallway light for menu navigation
- capacitive buttons with blue status LED
- 16 ring tone melodies
- door call, storey call or internal call assignment
- shut-off button for ring tone, with status LED
- illuminated TFT colour display
- status displays for calling and speaking
- display of the calling door/internal station number
- symbol display for special functions of the configured
  buttons
- Display brightness incrementally adjustable
- Contrast incrementally adjustable
- Colour reproduction incrementally adjustable
- call volume adjustable
- sound volume for ring tone melody and control button tone
  continuously adjustable
- microphone sensitivity continuously adjustable

- half duplex intercom mode temporarily/permanently
  adjustable
- acoustic and optical call signalling via LED and display
- automatic display switch off after 3 minutes
- call waiting during current call
- parallel operation of up to 3 indoor stations
- floor call forwarding to identically addressed indoor stations
- manual camera and door activation/change-over
- automatic door release (automatic door release)
- floor door release automatic
- floor door release automatic via integrated relay
- direct door release
- call forwarding to another indoor station
- parallel call
- i2-BUS relay
- internal relay on the terminals KK
- internal call
- internal connection
- camera change-over at the calling door
- privacy function
- video privacy function
- manual camera activation lockable
- call on the door can be switched on/can be switched off
- keylock for cleaning mode
- for floor call push-button
- for optional additional infeed
- at integrated relay contact 24 V/1 A

REA559X

IP30

Description	Colour	PU	Order no.
Indoor station VIDEO comfort surface-mounted 2D video	white, glossy	1	**REA559X**

2-wire technology

2-wire technology

REH001X

Accessories for comfort indoor stations

Colour:	Stainless steel/glass glossy, metal brushed
Dimensions (W x H x D):	28/70/15 mm
Operating temperature:	-20 to 60 °C
Installation mode:	Built-in installation
Length of connection cable:	3 m

Note: Video branch RED611X required!

Universal desk console
For use in office environments. Suitable for the audio/video comfort indoor stations.

Description	PU	Order no.
Universal desk console stainless steel/glass for comfort indoor intercom units	1	**REH001X**

:hager

Line power supply

System technology:	2-wire
Dimensions (W x H x D):	106/90/67 mm
Operating voltage:	230 V AC
Output voltage:	22 to 26 V DC
Width of rail mounted device (RMD)	6 modules
230 V incandescent and halogen lamps	2300 W
230 V retrofit LED lamps	440 W
Compact fluorescent lamps with electronic ballast	22 x 20 W
- parallel compensated	1000 VA/130 µF
- with electronic ballast	1000 W
- lead-lag circuit	1000 W
Cable length to door station	max. 100 m
Cable length to indoor station	max. 150 m
Door release unlocking time	1/10 s
Operating temperature	-5 to 45 °C
Power consumption	≈ 4.1 W

RED011X - line power supply
To supply the 2-wire system. Integrated
audio output coupler. Overload and overheating protection.
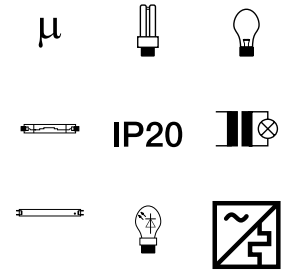
RED011X

Description	PU	Order no.
Bus line power supply with relay RMD	1	**RED011X**

Transformer

Nominal operating voltage alternating current:	230 V
Output voltage:	12 V
Insulation voltage:	4000 V
Total energy dissipation under rated current:	2.07 W
Connection cross-section with flexible conductor:	4 mm²
Connection cross-section with rigid conductor:	6 mm²
Operating temperature:	10 to 25 °C
Installation mode:	DIN rail (RMD)

ST320 - mains transformer
Safety transformer with PTC fuse.

ST320

Description	PU	Order no.
Safety transformer 230V/12V 18VA 2PLE	1	**ST320**

Video distributor and branch

RED-612, RED-622 - video distributor 2gang
For video distribution from one incoming to two
outgoing bus cables. Alternatively, for coupling
2 door stations.

RED-612: DIN rail version
RED-622: Flush-mounted version

RED-614, RED-624 - video distributor 4gang
For video distribution from one incoming to two outgoing bus
cables. Alternatively, for coupling 4 door stations.

RED-614: DIN rail version
RED-624: Flush-mounted version

RED611X - video branch
For branching a stub line from the video bus cable. Alternatively, for coupling one (storey) door station.

RED611X: DIN rail version
RED621X: Flush-mounted version
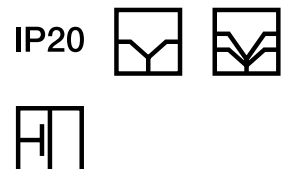
RED612X

Description	PU	Order no.
Video distributor 2-gang 2-wire RMD	1	**RED612X**
Video distributor 2-gang 2-wire flush-mounted	1	**RED622X**
Video distributor 4-gang 2-wire RMD	1	**RED614X**
Video distributor 4-gang 2-wire flush-mounted	1	**RED624X**
Video distributor/branch 2-wire RMD	1	**RED611X**
Video distributor/branch 2-wire flush-mounted	1	**RED621X**

2-wire technology

RED311X

 IP20

Output coupler for i2 audio

RED311X, RED321X - audio output coupler
For decoupling the i2 audio bus from the 2-wire system for the operation of audio components. 2D video looped through.

RED311X: DIN rail version
RED321X: Flush-mounted version

Description	PU	Order no.
Audio output coupler 2-wire RMD	1	**RED311X**
Audio output coupler flush-mounted 2-wire	1	**RED321X**

RED114X

IP20

Switching relay

Dimensions (W x H x D):	42/51/16 mm
Operating temperature:	5 to 40 °C
Installation mode:	For installation in flush-mounted wall box
Normally open contact switching voltage:	24 V
Normally open contact switching current:	1 A

RED114X - switching relay (universal)
for function-related switching and control functions such as: door release, light or function relay

- function-related switching and control functions

- switching of door release and light (stairway light timer)
- switching by function key on comfort indoor stations and door call signalling
- control by means of light, door release and comfort buttons of the indoor stations
- direct control of door release and light
- storey call function
- potential-free push-button input for control functions
- potential-free relay switching contact

Description	PU	Order no.
Switching relay 2-wire flush-mounted	1	**RED114X**

RED111X

IP20

Line coupler

Dimensions (W x H x D):	106/90/67 mm
Width of rail mounted device (RMD):	6 modules
Video signal amplification:	20 dB
Operating temperature:	5 to 40 °C
Installation mode:	Rail mounted device (RMD)
Device addressing:	Rotary coding switch (one-man commissioning)
Cable length to door station:	max. 100 m
Cable length to indoor station:	max. 150 m
Backbone cabling:	Patch cable RJ45
Backbone terminator:	Switchable
Backbone cable length:	< 300 m
Door stations per system:	max. 150
Indoor stations per system:	max. 256
Line couplers per system:	max. 64
Switching voltage door release contact:	24 V
Switching voltage light contact:	max. 24 V

Line coupler for connecting single lines in the 2-wire system via the backbone cable for systems with up to 256 subscrib-
ers and 150 main doors. Up to 64 line couplers with a back-bone cable length of 300 m.

- coupling of single lines
- integrated switching relay for door release and light (stair light timer)
- Integrated video signal amplifier for door station line
- for backbone cascading (2x RJ45)
- Power supply via video power supply unit
- infeed output for bus components
- potential-free door release and light switching contact
- with connection for floating output
- with power/overload, data traffic and backbone status LEDs
- door release protected against manipulation installable
- 3 simultaneous voice channels in backbone
- 1 voice channel in line
- simultaneous calls in multiple lines, if not occupied

Description	PU	Order no.
Line coupler 2-wire	1	**RED111X**

Switching relay

Switching relay 1gang with push-button input (universal)
For function-related switching and control functions such as: door release relay, light relay, function relay, door call signalling and door release/light direct control. (rail mounted device)

Switching relay 2gang (e.g. call switching relay)

With 2 potential-free switching contacts for subscriber-related switching functions. Addressable for 1-16 subscribers.

Description	PU	Order no.
Switching relay 1gang with input RMD i2 audio	1	**RED112X**
Switching relay 2gang RMD i2 audio	1	**RED113X**

RED112X

IP20
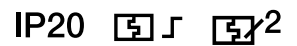
Line coupler accessories

RED013X power supply
Supplies power to the line coupler

TN002S - patch module RJ45, Cat.6, STP
Reference to Hager catalogue "Energy distribution + meter panel systems"

TN733 - patch cable set, Cat.6, S/FTP
Reference to Hager catalogue "Energy distribution + meter panel systems"

Description	PU	Order no.
Power supply RMD 2D video	1	**RED013X**
Patch module RJ45 CAT6 STP for DIN rails	1	**TN002S**
Patch cable set Cat.6, RJ45, 4 pc. @ 300 mm	1	**TN733**

RED013X

IP20
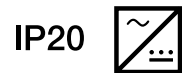
Outdoor cameras

Colour:	Stainless steel, metal brushed
Camera adjusting range horizontal/vertical:	± 90 °
Camera resolution:	320000 px
Camera light sensitivity F2.0:	0.2 lx
Camera objective:	12 mm
Camera CCD image sensor:	1/3"
Dimensions of camera rod (Ø x L):	24/83 mm
Dimensions of base (Ø x H):	104/25 mm
Video output, symmetrical:	1 Vpp, Z=100 ohms
Installation mode:	For wall and ceiling installation
Operating voltage via bus:	19 to 25 V DC

The rod cameras can be concealed in an inconspicuous position for discreet monitoring of the entrance area.

- stable, weatherproof stainless steel housing
- for discreet, inconspicuous positioning
- can be flexibly adjusted in any direction

- camera adjustment by ball joint with setscrew
- base housing made of brushed stainless steel
- camera rod made of brushed stainless steel
- rotary coding switch one-man commissioning
- device configuration via DIP-switch

REE500X

Description	Aperture angle horizontal	Aperture angle vertical	PU	Order no.
Rod camera surface-mounted 2D video	63 °	49 °	1	**REE500X**
Telescopic rod camera surface-mounted 2-wire	21 °	16 °	1	**REE501X**

2-wire technology

RED361X

Telephone gateway

Dimensions (W x H x D):	93/96/59 mm
Installation mode:	Rail mounting
Operating voltage via bus:	17 to 22 V DC
Operating temperature:	-20 to 60 °C
Width of rail mounted device (RMD):	6 modules

Telecommunication interface
Used to connect the i2 bus intercom system to the a/b port of a telephone system. This turns the intercom system into a telephony unit so it can be used as part of a telephone system installation.

The call variants can be changed over via the voice menu or defined as a chain call (engaged/no reply). During a conversation, up to 8 defined door stations can be dialled and the relevant door opened.

Programming is carried out via the integrated display and the keypad on the device, or conveniently via PC software and USB connection. The device does not need a separate power supply and is supplied via the i2 bus.

- connection to analogue telephone system interface
- call variant with 2 possible destination call numbers per subscriber
- up to 256 different subscribers/call destinations programmable
- configurable duration of calls
- automatic display switch-off after configured time
- parallel operation with up to 2 indoor stations
- supports i2BUS door, internal or storey calls
- integrated voice announcements for differentiating the type of call

- control of call acceptance and end of call
- switching of door release and light (stairway light timer)
- switching of up to 4 switching relays
- switching of door and camera switch
- direct selection and control of up to 8 door stations and their door releases
- control of the switching functions by DTMF post-dialling
- control code for door release, call acceptance and end of call adjustable
- door filter function for assignment of interface to specific door
- 8 individually configurable voice announcements for differentiating doors
- individually configurable call type, information and system announcements
- call variants 1, 2 or chain call adjustable
- call variant change-over by voice menu, display input or PC software
- internal calls to i2 bus indoor stations
- privacy function
- reject calls at the door
- calling of the voice menu with configurable PIN request adjustable
- call and talking duration individually adjustable for each call type
- device configuration and data backup via MS Windows PC and BTI-Term software
- device configuration via integrated two-row display by means of micro push-button
- menu language in English and German
- processes announcement sound files in WAV format up to 8 seconds in length

Description	PU	Order no.
PBX interface RMD i2 audio	1	**RED361X**

2-wire technology

ELCOM.ONE front plates audio

Material / surface:	Makrolon
Colour:	Stainless steel, metal brushed
Dimensions of name plate (W x H):	75.5/32.6 mm, 75.5/14.5 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
Surface compensation:	17 mm

- device configuration via LED display
- Name plate can be changed from the front without any special tools
- durable, homogeneous, white LED call push-button backlighting
- door release during connection or at any time adjustable

- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable
- call button can be adjusted with light, door release or without function
- call push-button with acknowledge tone (can be switched off) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- installation in surface-mounted or flush-mounted housings
- pluggable connection terminal block with screw terminals

REQ001X

IP44   IK07

Description	Dimensions front plate (W x H x D)	Installation in housing surface-/flush-mounted size	PU	Order no.
Door station audio 1/1 2-wire	133.5/242/2 mm	1	1	**REQ001X**
Door station audio 2/1 2-wire	133.5/242/2 mm	1	1	**REQ002X**
Door station audio 4/1 2-wire	133.5/242/2 mm	1	1	**REQ004X**
Door station audio 6/1 2-wire	133.5/295.8/2 mm	2	1	**REQ006X**
Door station audio 8/1 2-wire	133.5/332/2 mm	3	1	**REQ008X**
Door station audio 10/1 2-wire	133.5/385.8/2 mm	4	1	**REQ010X**
Door station audio 12/1 2-wire	133.5/422/2 mm	5	1	**REQ012X**
Door station audio 16/2 2-wire	225.5/332/2 mm	6	1	**REQ016X**
Door station audio 20/2 2-wire	225.5/422/2 mm	7	1	**REQ020X**
Door station audio 24/2 2-wire	225.5/422/2 mm	7	1	**REQ024X**

ELCOM.ONE front plates video

Colour:	Stainless steel, metal brushed
Material / surface:	scratch-proof camera cover; Makrolon
Camera aperture angle Swivel range horizontal/vertical:	42.5 °
Camera aperture angle horizontal:	82 °
Camera aperture angle vertical:	58 °
Dimensions of name plate (W x H):	75.5/32.6 mm, 75.5/14.5 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
Surface compensation:	17 mm

- device configuration via LED display
- camera adjustment by setscrew accessible from the front
- Name plate can be changed from the front without any special tools

- durable, homogeneous, white LED call push-button backlighting
- invisible, glare-free IR LED night lighting
- door release during connection or at any time adjustable
- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable
- call button can be adjusted with light, door release or without function
- call push-button with acknowledge tone (can be switched off) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- temperature controlled camera heating for clear view
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- installation in surface-mounted or flush-mounted housings
- pluggable connection terminal block with screw terminals

REQ501X

IP44

Description	Dimensions front plate (W x H x D)	Installation in housing surface-/flush-mounted size	PU	Order no.
Door station video 1/1 2-wire	133.5/242/2 mm	1	1	**REQ501X**
Door station video 2/1 2-wire	133.5/242/2 mm	1	1	**REQ502X**
Door station video 4/1 2-wire	133.5/242/2 mm	1	1	**REQ504X**
Door station video 6/1 2-wire	133.5/295.8/2 mm	2	1	**REQ506X**
Door station video 8/1 2-wire	133.5/332/2 mm	3	1	**REQ508X**
Door station video 10/1 2-wire	133.5/385.8/2 mm	4	1	**REQ510X**
Door station video 12/1 2-wire	133.5/422/2 mm	5	1	**REQ512X**
Door station video 16/2 2-wire	225.5/332/2 mm	6	1	**REQ516X**
Door station video 20/2 2-wire	225.5/422/2 mm	7	1	**REQ520X**
Door station video 24/2 2-wire	225.5/422/2 mm	7	1	**REQ524X**

2-wire technology

REQ101X

IP44

ELCOM.ONE front plates audio with status indication

Colour:	Stainless steel, metal brushed
Material / surface:	Makrolon
Dimensions of name plate (W x H):	75.5/32.6 mm, 75.5/14.5 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
Surface compensation:	17 mm

- device configuration via LED display
- with LED status display for bell, intercom connection and door release
- Name plate can be changed from the front without any special tools
- durable, homogeneous, white LED call push-button backlighting

- door release during connection or at any time adjustable
- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable
- call button can be adjusted with light, door release or without function
- call push-button with acknowledge tone (can be switched off) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- installation in surface-mounted or flush-mounted housings
- pluggable connection terminal block with screw terminals

Description	Dimensions front plate (W x H x D)	Installation in housing surface-/flush-mounted size	PU	Order no.
Door station audio with LED 1/1 2-wire	133.5/242/2 mm	1	1	**REQ101X**
Door station audio with LED 2/1 2-wire	133.5/242/2 mm	1	1	**REQ102X**
Door station audio with LED 4/1 2-wire	133.5/332/2 mm	3	1	**REQ104X**
Door station audio with LED 6/1 2-wire	133.5/332/2 mm	3	1	**REQ106X**
Door station audio with LED 8/1 2-wire	133.5/422/2 mm	5	1	**REQ108X**
Door station audio with LED 10/1 2-wire	133.5/422/2 mm	5	1	**REQ110X**
Door station audio with LED 12/2 2-wire	225.5/332/2 mm	6	1	**REQ112X**
Door station audio with LED 14/2 2-wire	225.5/332/2 mm	6	1	**REQ114X**
Door station audio with LED 16/2 2-wire	225.5/422/2 mm	7	1	**REQ116X**
Door station audio with LED 20/2 2-wire	225.5/422/2 mm	7	1	**REQ120X**
Door station audio with LED 22/2 2-wire	225.5/422/2 mm	7	1	**REQ122X**

REQ601X

IP44

ELCOM.ONE front plates video with status indication

Colour:	Stainless steel, metal brushed
Material / surface:	Scratch-proof camera cover; Makrolon
Camera aperture angle	
Swivel range horizontal/vertical:	42.5 °
Camera aperture angle horizontal:	82 °
Camera aperture angle vertical:	58 °
Dimensions of name plate (W x H):	75.5/32.6 mm, 75.5/14.5 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
Surface compensation:	17 mm

- device configuration via LED display
- with LED status display for bell, intercom connection and door release
- camera adjustment by setscrew accessible from the front
- Name plate can be changed from the front without any special tools

- durable, homogeneous, white LED call push-button backlighting
- invisible, glare-free IR LED night lighting
- door release during connection or at any time adjustable
- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable
- call button can be adjusted with light, door release or without function
- call push-button with acknowledge tone (can be switched off) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- temperature controlled camera heating for clear view
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- installation in surface-mounted or flush-mounted housings
- pluggable connection terminal block with screw terminals

Description	Dimensions front plate (W x H x D)	Installation in housing surface-/flush-mounted size	PU	Order no.
Door station video with LED 1/1 2-wire	133.5/242/2 mm	1	1	**REQ601X**
Door station video with LED 2/1 2-wire	133.5/242/2 mm	1	1	**REQ602X**
Door station video with LED 4/1 2-wire	133.5/332/2 mm	3	1	**REQ604X**
Door station video with LED 6/1 2-wire	133.5/332/2 mm	3	1	**REQ606X**
Door station video with LED 8/1 2-wire	133.5/422/2 mm	5	1	**REQ608X**
Door station video with LED 10/1 2-wire	133.5/422/2 mm	5	1	**REQ610X**
Door station video with LED 12/2 2-wire	225.5/332/2 mm	6	1	**REQ612X**
Door station video with LED 14/2 2-wire	225.5/332/2 mm	6	1	**REQ614X**
Door station video with LED 16/2 2-wire	225.5/422/2 mm	7	1	**REQ616X**
Door station video with LED 20/2 2-wire	225.5/422/2 mm	7	1	**REQ620X**
Door station video with LED 22/2 2-wire	225.5/422/2 mm	7	1	**REQ622X**

:hager

ELCOM.ONE flush-mounted housing

Colour: Stainless steel, metal natural

- cut-outs for cable entry at the side, rear, top and bottom
- with extendible wall anchors

Description	Dimensions Flush-mounted housing (W x H x D)	PU	Order no.
Housing size 1 flush-mounted for door station ONE	92/218/47 mm	1	**REW111X**
Housing size 2 flush-mounted for door station ONE	92/270.2/47 mm	1	**REW112X**
Housing size 3 flush-mounted for door station ONE	92/308/47 mm	1	**REW113X**
Housing size 4 flush-mounted for door station ONE	92/361.8/47 mm	1	**REW114X**
Housing size 5 flush-mounted for door station ONE	92/398/47 mm	1	**REW115X**
Housing size 6 flush-mounted for door station ONE	184/308/47 mm	1	**REW126X**
Housing size 7 flush-mounted for door station ONE	184/398/47 mm	1	**REW127X**

REW111X

ELCOM.ONE surface-mounted housing

Colour: Black matt, aluminium powder-coated

- rear-side cable entry

Description	Dimensions Surface-mounted housing (W x H x D)	PU	Order no.
Housing size 1 surface-mounted for door station ONE	139.5/248.3/28.5 mm	1	**REW211X**
Housing size 2 surface-mounted for door station ONE	139.5/302.1/28.5 mm	1	**REW212X**
Housing size 3 surface-mounted for door station ONE	139.5/338.3/28.5 mm	1	**REW213X**
Housing size 4 surface-mounted for door station ONE	139.5/392.1/28.5 mm	1	**REW214X**
Housing size 5 surface-mounted for door station ONE	139.5/428.3/28.5 mm	1	**REW215X**
Housing size 6 surface-mounted for door station ONE	231.5/338.3/29 mm	1	**REW226X**
Housing size 7 surface-mounted for door station ONE	231.5/428.3/29 mm	1	**REW227X**

REW211X

2-wire technology
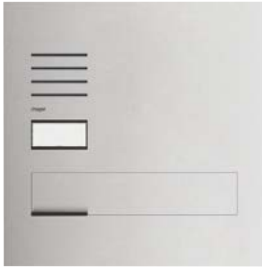
REL101X

IP44

ELCOM.ONE letter box front audio

Colour:	Stainless steel, metal brushed
Dimensions of letter box flap (W x H):	279/58 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
LED operating voltage:	24 V DC
Surface compensation:	17 mm

- letter box flap flush-mounted with sealing, damped axle
- device configuration via LED display
- Name plate can be changed from the front without any special tools
- durable, homogeneous, white LED call push-button backlighting
- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable

- call button can be adjusted with light, door release or without function
- call push-button with acknowledge tone (can be switched off) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- pluggable connection terminal block with screw terminals

Description	PU	Order no.
Pass-through letter box front audio 1/1 2-wire	1	**REL101X**
Pass-through letter box front audio 2/1 2-wire	1	**REL102X**
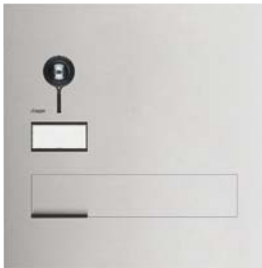
REL501X

ELCOM.ONE letter box front video

Colour:	Stainless steel, metal brushed
Dimensions of letter box flap (W x H):	279/58 mm
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
LED operating voltage:	24 V DC
Surface compensation:	17 mm

- letter box flap flush-mounted with sealing, damped axle
- device configuration via LED display
- Name plate can be changed from the front without any special tools
- durable, homogeneous, white LED call push-button backlighting

- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable
- call button can be adjusted with light, door release or without function on the audio or video module
- call push-button with acknowledge tone (can be switched off on the audio or video module) and tactile feedback
- front plate with non-visible opening mechanics and safety rope
- with protection from vandalism
- loudspeaker and microphone protected against sabotage
- break-proof flush-mounted call buttons
- pluggable connection terminal block with screw terminals

Description	PU	Order no.
Pass-through letter box front video 1/1 2-wire	1	**REL501X**
Pass-through letter box front video 2/1 2-wire	1	**REL502X**

REW411X

IP44

ELCOM.ONE pass-through box

Colour:	Silver, metal zinc-plated
Material / surface:	Zinc-plated sheet steel

- removal door on the back with name plate, hinged right
- removal door white aluminium (similar to RAL 9006) coated
- removal door with security lock BKS-110 and 2 keys

- for letter box fronts ONE
- depth of 263 ... 383 mm extendible

Description	Dimensions (W x H x D)	PU	Order no.
Pass-through box 1/1 263-383 mm	311.6/323.7/263 mm	1	**REW411X**
Pass-through box 2/1 263-383 mm	311.6/449.1/263 mm	1	**REW412X**
Pass-through box 1/1 383-503 mm	311.6/323.7/383 mm	1	**REW413X**
Pass-through box 2/1 383-503 mm	311.6/449.1/383 mm	1	**REW414X**

The MODESTA range is ideal for urban spaces where requirements could not be more varied: residential and commercial spaces within the same building complex, public institutions, offices and doctor's surgeries.

The modular design really comes into its own in this context and ensures a long service life thanks to the robust metal construction.

ELCOM.MODESTA flush-mounted frame

Colour: Stainless steel, metal brushed

The consistent processing of high-quality stainless steel, paired with the variable, modular design, is completely un-compromising and meets the highest standards when it comes to prestigious commercial properties in city centres in particular.

- stainless steel housing with extendible assembly aid
- flush-mounted, rear screw connection of the modules in the frame for MODESTA stainless steel modules
- stainless steel flush-mounted housing with cable entries at the side and rear

REM101X

Description	Dimensions front plate (W x H x D)	PU	Order no.
MODESTA frame 1/1 stainless steel matt, incl. flush-mounted frame	155/180/2 mm	1	**REM101X**
MODESTA frame 2/1 stainless steel matt, incl. flush-mounted frame	155/310/2 mm	1	**REM102X**
MODESTA frame 3/1 stainless steel matt, incl. flush-mounted frame	155/440/2 mm	1	**REM103X**
MODESTA frame 4/1 stainless steel matt, incl. flush-mounted frame	155/580/2 mm	1	**REM104X**
MODESTA frame 4/2 stainless steel matt, incl. flush-mounted frame	285/310/2 mm	1	**REM105X**
MODESTA frame 6/2 stainless steel matt, incl. flush-mounted frame	285/440/2 mm	1	**REM106X**

ELCOM.MODESTA surface-mounted frame

Colour: Stainless steel, metal brushed

The MODESTA frame system is one of the most flexible door station systems on the market in terms of its durability and variation options.

- stainless steel housing with extendible assembly aid
- flush-mounted, rear screw connection of the modules in the frame for MODESTA stainless steel modules
- screwless folding mechanism with spring fastener
- cable entries on rear side

REM201X

Description	Dimensions housing (W x H x D)	PU	Order no.
MODESTA frame 1/1 stainless steel matt, incl. surface-mounted frame	170/180/48 mm	1	**REM201X**
MODESTA frame 2/1 stainless steel matt, incl. surface-mounted frame	170/310/48 mm	1	**REM202X**
MODESTA frame 3/1 stainless steel matt, incl. surface-mounted frame	170/440/48 mm	1	**REM203X**
MODESTA frame 4/1 stainless steel matt, incl. surface-mounted frame	170/570/48 mm	1	**REM204X**
MODESTA frame 5/1 stainless steel matt, incl. surface-mounted frame	300/310/48 mm	1	**REM205X**
MODESTA frame 6/1 stainless steel matt, incl. surface-mounted frame	300/440/48 mm	1	**REM206X**

ELCOM.MODESTA pedestals

Colour: Stainless steel, metal brushed

Pedestals in stainless steel, matt brushed
Clear design, optimal alignment for visitors, flexible positioning and seamless integration as a style feature for modern architecture projects – these are the signs of high-quality communication and function pedestals. Thanks to the flexible modular design, the product is suitable for a multitude of applications and meets a huge range of requirements.
- flush-mounted, rear screw connection of the modules in the

frame for MODESTA stainless steel modules
- rear side inspection flap with spring hinge
- closed with hexagon stainless steel screw M2,5 x 5 mm
- cable entries from the bottom into a double pipe in the pedestal body

REM401X

Description	Dimensions (W x H x D)	PU	Order no.
Modesta pedestals 1/1 stainless steel matt brushed	345/1370/150 mm	1	**REM401X**
Modesta pedestals 2/1 stainless steel matt brushed	345/1500/150 mm	1	**REM402X**
Modesta pedestals 3/1 stainless steel matt brushed	345/1630/150 mm	1	**REM403X**
Modesta pedestals 4/1 stainless steel matt brushed	345/1630/150 mm	1	**REM404X**
Modesta pedestals 5/1 stainless steel matt brushed	475/1500/150 mm	1	**REM405X**
Modesta pedestals 6/1 stainless steel matt brushed	475/1630/150 mm	1	**REM406X**

REM505X

ELCOM.MODESTA letter box pedestals

Colour:	Stainless steel, metal brushed
Dimensions of letter box flap (W x H):	333/68 mm
Installation mode:	Free-standing

Letter box pedestals in stainless steel, matt brushed
Letter box communication pedestals are ideal for the entrance areas of commercial buildings and sophisticated home environments. The pedestals receive your post, regulate building communication and access control, provide information and create a sense of prestige. Innovative function features fulfil every wish with regard to ease of use and ergonomics.

- flush-mounted screw connection on support structure for MODESTA stainless steel modules
- rear side inspection flap with spring hinge
- closed with hexagon screw M2,5 x 5 mm
- with letter box security lock type 1, differing lockings
- letter box flap flush-mounted with sealing, damped axle
- letter box removal compartment on the back, hinged down, hydraulically damped
- cable entries from the bottom into a double pipe in the pedestal body

Description	PU	Order no.
Modesta letter box pedestals 4/2 stainless steel matt brushed	1	**REM505X**
Modesta letter box pedestals 6/2 stainless steel matt brushed	1	**REM506X**
Modesta letter box pedestals front 4/2 stainless steel matt brushed	1	**REM515X**
Modesta letter box pedestals front 6/2 stainless steel matt brushed	1	**REM516X**

REN101X

ELCOM.MODESTA REN push-button modules

Colour:	Stainless steel, metal brushed
Material / surface:	Makrolon
For labelling strip:	30 mm, 12 mm
Operating temperature:	-20 to 55 °C
Operating voltage:	24 V DC

- Name plate can be changed from the front without any special tools
- durable, homogeneous, white LED call push-button backlighting

- Twilight controlled call push-button backlighting with adjustable switch-on brightness level
- call button can be adjusted with light, door release or without function on the audio or video module
- call push-button with acknowledge tone (can be switched off on the audio or video module) and tactile feedback

Description	Number of call buttons	PU	Order no.
Call push-button module with LED name plate 1/1 built-in 2-wire	1	1	**REN101X**
Call push-button module with LED name plate 2/1 built-in 2-wire	2	1	**REN102X**
Call push-button module with LED name plate 4/1 built-in 2-wire	4	1	**REN104X**

ELCOM.MODESTA REN push-button modules with status indication

Colour:	Stainless steel, metal brushed
For labelling strip:	30 mm,
	12 mm
Dimensions of front plate (W x H x D):	120/120/2 mm
Dimensions of name plate (W x H):	75.5/32.6 mm,
	75.5/14.5 mm

- with LED status display for bell, intercom connection and door release
- 2 connections for module connecting cable

REN091X

Description	PU	Order no.
Call push-button module with LED name plate 1/1 and LED status indication built-in 2-wire 1		**REN091X**
Call push-button module with LED name plate 2/1 and LED status indication built-in 2-wire 1		**REN092X**
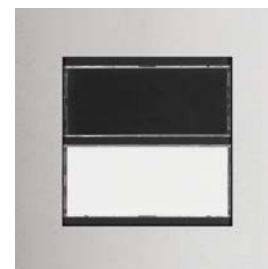
ELCOM.MODESTA REN module status indication

Colour:	Stainless steel, metal brushed
Dimensions of front plate (W x H x D):	120/120/2 mm
Operating temperature:	-20 to 55 °C
Operating voltage:	24 V DC

- with LED status display for bell, intercom connection and door release
- 2 connections for module connecting cable

REN090X

Description	PU	Order no.
Status indication module built-in 2-wire	1	**REN090X**
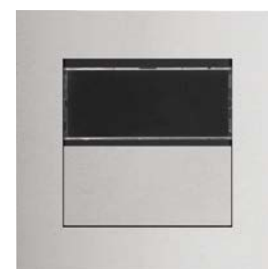
ELCOM.MODESTA connecting cable REN push-button

- For connecting the MODESTA module inputs and outputs depending on distance
- ribbon cable with connector

REH301X

Description	Line length	PU	Order no.
Module connecting cable 90 mm	90 mm	1	**REH301X**
Module connecting cable 335 mm	335 mm	1	**REH302X**
Module connecting cable 420 mm	420 mm	1	**REH305X**

:hager

REN410X

ELCOM.MODESTA loudspeaker module for REN push-button

Colour:	Stainless steel, metal brushed	Protection:	Loudspeaker and microphone protected against sabotage
Door release unlocking time:	1/10 s		
Door release contact potential-free:	max. 24V/1A		
Switching current for door release contact:	max. 1 A	- device configuration via LED display	
Switching voltage for door release contact:	max. 24 V	- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable	
Loudspeaker unit:	Loudspeaker volume adjustable; microphone sensitivity adjustable	- Call push-button acknowledge tone can be switched off	
Operating temperature:	-20 to 55 °C	- Connection for module connecting cable	
Operating voltage:	24 V DC	- pluggable connection terminal block with screw terminals	
Installation mode:	Built-in installation		

Description	PU	Order no.
Audio module built-in 2-wire	1	**REN410X**

REN610X

ELCOM.MODESTA camera/loudspeaker module for REN push-button

Colour:	Stainless steel, metal brushed		sabotage
Material / surface:	Scratch-proof camera cover	Operating temperature:	-20 to 55 °C
Camera resolution (horizontal x vertical):	500/582 px	Operating voltage:	24 V DC
Camera aperture angle swivel range horizontal/vertical:	42.5 °	Installation mode:	Built-in installation
Camera aperture angle horizontal:	82 °	- device configuration via LED display	
Camera aperture angle vertical:	58 °	- invisible, glare-free IR LED night lighting	
Switching current for door release contact:	max. 1 A	- Volume, microphone sensitivity, door release function, camera and call button backlighting adjustable	
Switching voltage for door release contact:	max. 24 V	- Call push-button acknowledge tone can be switched off	
Door release unlocking time:	1/10 s	- camera adjustment by setscrew accessible from the front	
Camera current consumption (operation):	240 mA	- Connection for module connecting cable	
Heating:	Temperature-controlled camera heating for clear view	- pluggable connection terminal block with screw terminals	
Protection:	Loudspeaker and microphone protected against		

Description	PU	Order no.
Video module built-in 2-wire	1	**REN610X**

REN230X

IP44

ABC
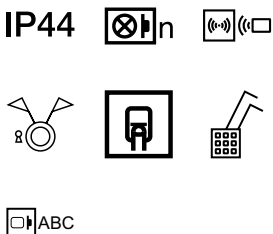
ELCOM.MODESTA access modules

Transponder reader module
Access control without touch contact
for max. 200 keys.

Transponder reader dummy module
Transponder reader dummy module for installing third-party card readers after providing and testing technical feasibility.

Fingerprint reader module
Access control consisting of internal unit and stainless steel scanner unit.

Code lock module
Code lock with 2 independent switching contacts.

Display call module

Call display for up to 256 resident entries with additional information.

Keyboard module for display call built-in
12-key stainless steel keypad for the display call module REN705. Code lock functions.

LAN interface
LAN interface for the display call module REN704X.

Description	PU	Order no.
Transponder reader module built-in stainless steel matt Modesta	1	**REN230X**
Transponder reader dummy module built-in stainless steel matt odesta	1	**REN231X**
Fingerprint reader module with control device built-in/RMD stainless steel matt odesta	1	**REN233X**
Code lock module built-in stainless steel matt Modesta	1	**REN232X**
Display call module for Modesta with German and English text	1	**REN705S**
Display call module for Modesta with French and English text	1	**REN705X**
Display call module for Modesta with Italian and English text	1	**REN705T**
Display call module for Modesta with Dutch and English text	1	**REN705N**
Display lock module built-in stainless steel matt Modesta	1	**REN704X**
LAN interface built-in for display call module	1	**REE001X**

Transponder reader fob

| Colour: | Black/white matt | RFID transponder for keypass as key chain |
| Dimensions (W x H x D): | 35/43/5 mm | standalone RFID access control without touch contact |

Packaging unit: 3/10 pieces

Description	PU	Order no.
Transponder fob/key chain 3 pieces black	1	REH213X
Transponder fob/key chain 10 pieces black	1	REH214X

REH213X

Transponder reader card

| Colour: | White glossy | RFID transponder for keypass in credit card size |
| Dimensions (W x H x D): | 85/54/1 mm | standalone RFID access control without touch contact |

Packaging unit: 3/10 pieces
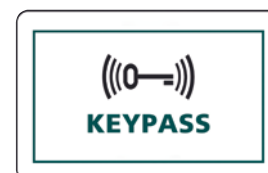
Description	PU	Order no.
Transponder card/credit card size 3 pieces white	1	REH215X
Transponder card/credit card size 10 pieces white	1	REH216X

REH215X

ELCOM.MODESTA function modules

House number module, single-digit
House number module in robust plug-in design.

House number module, two-digit
House number module in robust plug-in design.

Info module, LED-illuminated
Info module, illuminated with LED (white), visible surface: 80 x 80 mm

Description	PU	Order no.
House number module single-digit built-in stainless steel matt odesta	1	**REN701X**
House number module two-digit built-in stainless steel matt Modesta	1	**REN702X**
LED info module built-in stainless steel matt Modesta	1	**REN700X**

REN701X
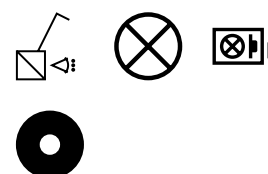
Cleaning kit for stainless steel

For cleaning ELCOM.ONE and ELCOM.MODESTA

Description	PU	Order no.
Cleaning kit for stainless steel	1	**REH106X**

REH106X

The intelligent 2-wire technology

Calling, seeing, speaking, opening via two wires for quick and easy installation. Perfect for new systems and modernisation.
Along with the call, speak and door release functions, the video signal is also transferred via the two wires of the bus cable. i2 audio technology components such as a telephone gateway can be integrated seamlessly via the a/b connections on the new RED011X bus line power supply or via a RED311X / RED321X audio output coupler.

Advantages
- One system infrastructure for audio and video
- Low wiring complexity (only 2 wires) regardless of whether it is an audio or video system
- Easy bus wiring (protected against polarity reversal)
- Future-proof thanks to constant further development and expansion
- Easy addressing thanks to drehfix® coding switch
- Easy retrofitting
- Compact design thanks to camera/door speaker module combination

Safety regulations and standards
The general safety regulations and standards for the relevant country must be observed.

Maximum expansion of a line system
In the case of an outdoor station, a maximum of 32 video or audio indoor systems can be integrated into the system. If additional outdoor stations are connected (up to max. 16 pieces), the number of indoor stations is reduced by 2 pieces in each case. The same applies when using other bus devices, such as relays. The number of indoor stations is limited to 16 per branch. If there are video indoor stations in the branch, then the number is reduced to a maximum of 8 indoor stations. Additional branches can be created with distributors, up to the maximum expansion.

2-wire technology

Outdoor stations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Indoor stations	32	30	28	26	24	22	20	18	16	14	12	10	8	6	4	2

Video technology and termination
In the case of 2-wire door communication, the video signal is transferred via the bus cable at high frequencies. In order to prevent reflections and faults, the bus cable must be terminated in the last device of a line by connecting a terminating resistor. Video distributors are to be provided so the bus cable can be divided or branched. Unassigned connections on the video distributor must also be terminated. The video signal is attenuated due to line losses and the video distributors used. The maximum permissible attenuation between the camera and the indoor station furthest away is 40 dB.
The total attenuation is calculated by adding up all distributor and line attenuations. Distributors and branches can be omitted in the case of audio-only systems. However, we would always recommend retaining the structure of a video system so that a retrofit can be carried out without any problems at a later stage.

Cable material and cable lengths
The following cable material can be used to install the intercom system:

Installation cable/communication cable stranded in pairs, with shielding
Network cable stranded in pairs, with shielding
Bell hose line

The bus cable (X/X) must be installed on a stranded wire pair in the case of installation/communication cables and network cables, and on two adjacent wires in the case of bell hose lines. Doubling the bus wires (X/X) is not permitted! To increase the range, the additional infeed (S/S) can be connected to the video indoor stations.

The total attenuation of the video signal must not exceed 40 dB in the case of installation/communication cables and network cables. In the case of bell hose lines, we recommend a maximum attenuation of 20 dB due to the lower interference resistance. To further improve the interference resistance, the cable shielding can be earthed in the distribution as a neutral point in the case of installation/communication cables.

The table below shows the maximum cable length between the line power supply and the indoor/outdoor station.

Cable material	Wire diameter	Maximum cable length	With additional infeed	Maximum attenuation
Communication cable	0.8 mm	150 m	150 m	40 dB
Communication cable	0.6 mm	75 m	150 m	40 dB
Network Cable	0.5 mm	50 m	100 m / 150 m (*)	40 dB
Bell hose line	0.8 mm	75 m	75 m	20 dB

* = With wire doubling on additional infeed (S/S)

The length of all connected bus cable lines must not exceed 1000 m in total. For new installations, we recommend cable material of the installation/communication cable type with 0.8 mm wire diameter.

Basic circuits

Series wiring
In the case of series wiring, the door station installation takes place via the looped-in line power supply to the first indoor station, from the first to the second, from the second to the third, and so on. In the final indoor station, the line must be terminated by connecting the terminating resistor. Two additional wires are required from the main distributor/distribution box to the door station in order to supply power to the door release and the camera heating.

Star wiring
In the case of star wiring, the video signal is distributed by means of a video distributor. If necessary, the outgoing lines can be looped through again from indoor station to indoor station. A terminating resistor must be connected in the final indoor station of each line.

Stub lines
Where branches are present, video distributors should also be used.

Looping through
If there is a sufficient number of wires and the cables are twisted in pairs, the bus cable can also be looped through. In this case, please note that the incoming wire pair and the outgoing wire pair are directly connected to the device.

Series wiring
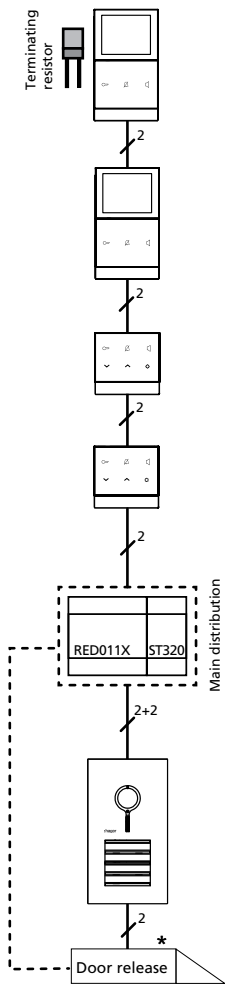
Star wiring
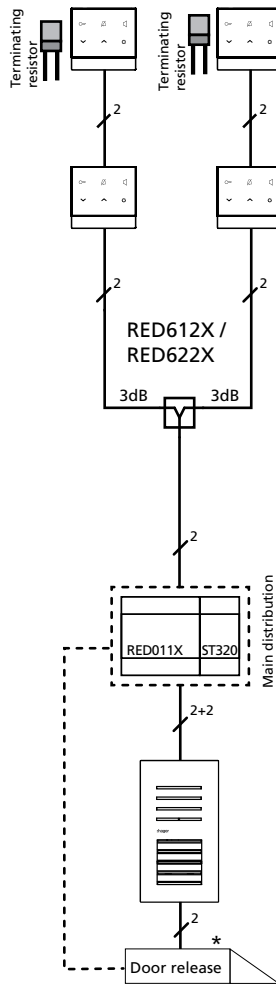
Stub lines
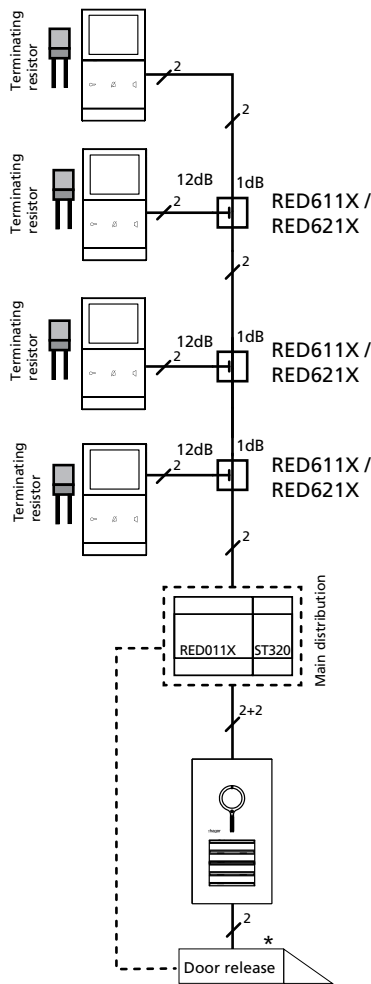
Looping through
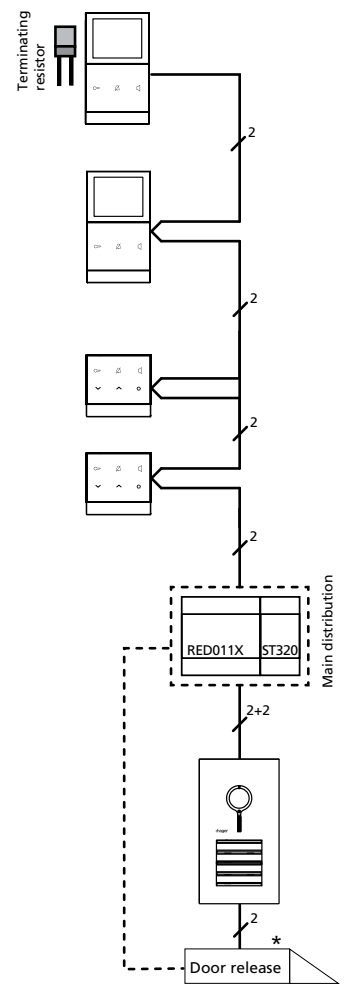
*) Door release connection either
- in the distributor on the integrated relay of the new bus line power supply or
- on the integrated relay of the outdoor station

In the case of audio-only systems, it is possible to omit distributors and branches.

drehfix® addressing –
an entirely practice-oriented solution

In terms of speed and flexibility, the drehfix® coding switch is unsurpassed as a means of addressing devices. In the case of the new ELCOM.ONE outdoor stations, the process has been optimised even further as they are addressed automatically according to a predefined diagram when the system voltage is connected for the first time. You can also assign the addresses yourself using the integrated 7-segment display.

Each indoor station has one black and one blue rotary switch for addressing purposes. The black rotary switch determines the group address; the blue one defines the intercom device address. To connect a bell push-button with one or more indoor stations, you merely need to assign the relevant group and intercom device addresses for the push-button on the indoor station.

2-wire bus

16. Indoor intercom unit

Group address (black) = 0

Intercom device address (blue) = F

15. Indoor intercom unit

Group address (black) = 0

Intercom device address (blue) = E

2. Indoor intercom unit

Group address (black) = 0

Intercom device address (blue) = 1

1. Indoor intercom unit

Group address (black) = 0

Intercom device address (blue) = 0
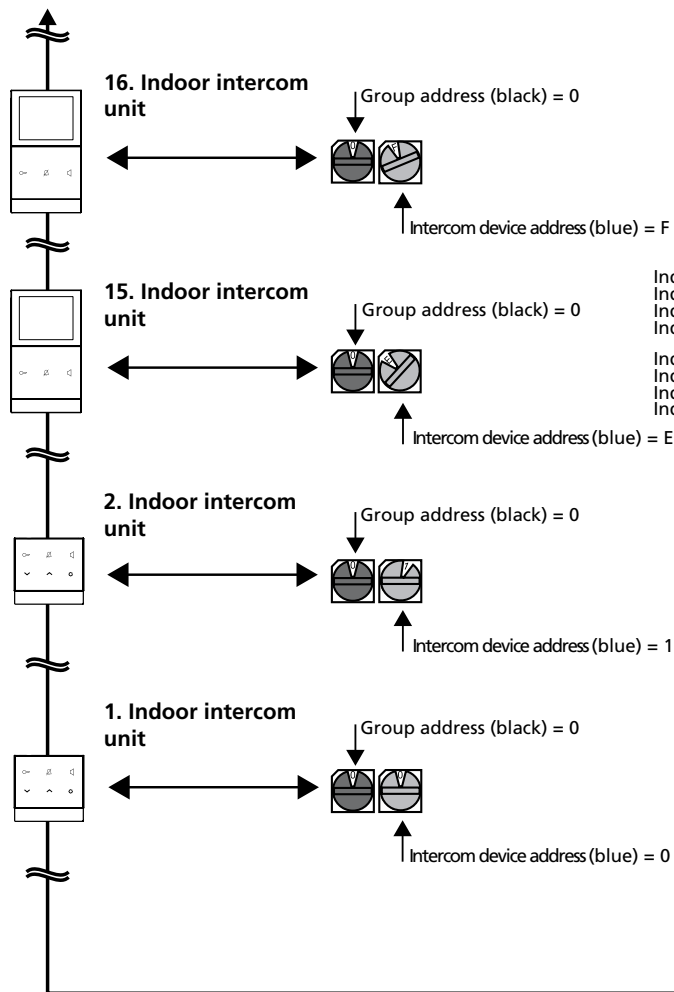
Automatic call push-button addressing
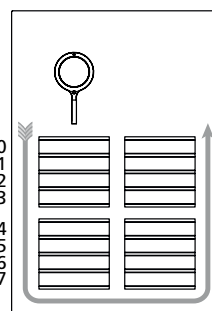
Indoor intercom unit 1: 0/0
Indoor intercom unit 2: 0/1
Indoor intercom unit 3: 0/2
Indoor intercom unit 4: 0/3

Indoor intercom unit 5: 0/4
Indoor intercom unit 6: 0/5
Indoor intercom unit 7: 0/6
Indoor intercom unit 8: 0/7

Indoor intercom unit 16: 0/F
Indoor intercom unit 15: 0/E
Indoor intercom unit 14: 0/D
Indoor intercom unit 13: 0/C

Indoor intercom unit 12: 0/B
Indoor intercom unit 11: 0/A
Indoor intercom unit 10: 0/9
Indoor intercom unit 9: 0/8

Advanced applications

2D bus

Main distribution board

RED011X   ST320

3dB   3dB

**Video distributor
RED612X / RED622X**

2+2   2+2

`0.0.`   `0.1.`

Door address = 0   Door address =

2   2

Door release   Door release

1. Outdoor station   2. Outdoor station

Connecting multiple outdoor stations
In the case of multiple outdoor stations, the bus cables of the individual doors must be coupled into the line via video distributors. In this case, the video distributor is operated "inversely", whereby the connections act as inputs for the outdoor stations. Terminating resistors are to be connected for unassigned connections on video distributors. The attenuation of the video distributors must be taken into account when calculating the total attenuation. The door addresses are set using the 7-segment display on the outdoor station. The first outdoor station is assigned address 1, the second 2, etc.

2D bus

2. Indoor station

2

same addressing

Storey call
Taster   2

1. Indoor station
Storey call forwarding
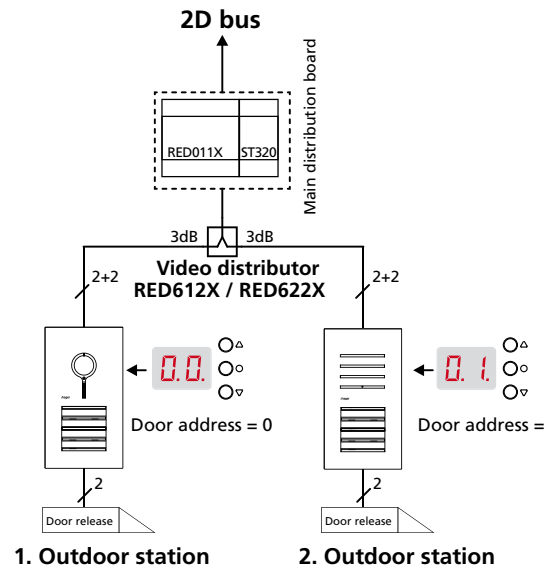activated

2D bus

Parallel operation of indoor stations
An identical address can be used to operate a maximum of 3 indoor stations in parallel and to assign a shared bell push-button. As the current consumption of the indoor stations is added up in this case, the permissible cable length for 2 indoor stations is reduced by half. In the case of 3 parallel indoor stations, the additional infeed must be connected.
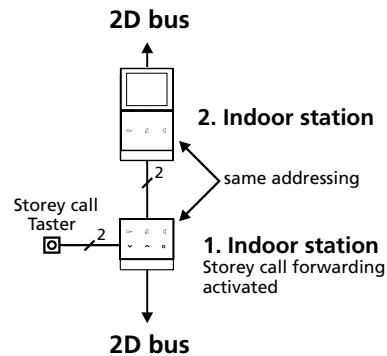
Storey call in parallel operation
In parallel operation, the storey call can be forwarded to the parallel indoor stations via the 2D bus. To do this, storey call forwarding must be activated in the first indoor station.

Terminating resistor

2   2

2   2

X/X S/S
RED011X
X/X

Additional infeed
To increase the range in the case of parallel indoor stations and/or when using wire diameters of less than 0.8 mm, the additional infeed can be connected to the indoor stations. The additional infeed requires two extra wires between the bus line power supply and the indoor station. In contrast to the bus cables, the additional infeed wires can also be doubled and wired in any series, star or tree structure.

2-wire technology
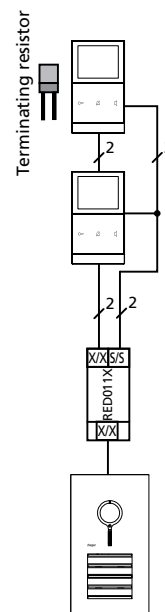
Overview of 2-wire distributors

The overview shows the four different variants of the 2-wire distributors, branches and output couplers. Each variant is available for DIN rail mounting in the distributor as well as for mounting in the device/switch wall box. All 2-wire distributors can be used both for distributing and coupling the bus cable. Unassigned distributor connections (X/X) must always be terminated by connecting a terminator.

	i2 audio output coupler	Distributor - branch	Distributor 2gang	Distributor 4gang
Function/attenuation/symbol	Transmission loss: 0dB / Branch attenuation: ∞	Transmission loss: 1dB / Branch attenuation: 12dB	Distribution attenuation: 3dB	Distribution attenuation: 6dB
	0dB / X/X — X/X / ∞ ∞ / a/b	1dB / X/X — X/X / 12dB 12dB / X1/X1	X/X — X/X / 3dB 3dB / X1/X1	X/X — X/X / X/X X/X / 6dB 6dB 6dB 6dB / X1/X1
HS = DIN rail mounting / UP = Wall box mounting	RED311X / RED321X	RED611X / RED621X	RED612X / RED622X	RED614X / RED624X

Cascading the 2-wire distributors

If more than 4 outputs or inputs are required, multiple 2-wire distributors must be cascaded. In this case, the outputs of the first distributors are connected to the inputs of the additional distributors. The distribution attenuations of the 2-wire distributors are added together. The table below shows the number of distributors required along with the maximum distributor attenuation and the space required for multiple lines.

Example:
Scheme 2-4,4
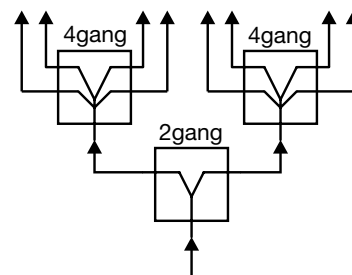
Lines	Video distributors required		Diagram	max. Attenuation	DIN rail Space requirements
	2gang	4gang			
2	1	-	2 -	3 dB	1 AB*
3 - 4	-	1	4 -	6 dB	2 AB*
5	1	1	2 - 4	9 dB	3 AB*
6	2	1	2 - 2.4	9 dB	4 AB*
7	-	2	4 - 4	12 dB	4 AB*
8	1	2	2 - 4.4	9 dB	5 AB*
9 -10	-	3	4 - 4.4	12 dB	6 AB*
11	1	3	4 - 2,4,4	12 dB	7 AB*
12 - 13	-	4	4 - 4,4,4	12 dB	8 AB*
14	1	4	4 - 2,4,4,4	12 dB	9 AB*
15 - 16	-	5	4 - 4,4,4,4	12 dB	10 AB*

* = device width (1 = 17.5 mm)

Application examples and attenuation calculations

The examples below show some sample attenuation calculations.
The line attenuation in this case is 2dB/10m.
The maximum permitted total attenuation is 40 dB for communication cables and 20 dB for bell hose lines.

Example 1

Apartment 1:
Line attenuation: 20m+10m+5m = 35m;
                         35m x (2dB/10m) = 7dB
Distributor attenuation: 3dB + 12dB = 15dB
Total attenuation: 7dB + 15 dB = 22dB

Apartment 2:
Line attenuation: 20m+10m+5m+5m = 40m;
                         40m x (2dB/10m) = 8dB
Distributor attenuation: 3dB+1dB+ 12dB = 16dB
Total attenuation: 8dB+16 dB = 24dB

Apartment 3:
Line attenuation: 20m+10m+5m+10m =45m;
                         45m x (2dB/10m) = 9dB
Distributor attenuation: 3dB+1dB+1dB = 5dB
Total attenuation: 9dB+5dB = 14dB

Example 2

Apartment 1 = apartment 2:
Line attenuation: 20m+10m = 30m;
                         30m x (2dB/10m) = 6dB
Distributor attenuation: 6dB
Total attenuation: 6dB+6 dB = 12dB

Apartment 3:
Line attenuation: 20m+20m = 40m;
                         40m x (2dB/10m) = 8dB
Distributor attenuation: 6dB
Total attenuation: 8dB+6 dB = 14dB

Apartment 4 from the main door:
Line attenuation: 20m+25m+5m = 50m;
                         50m x (2dB/10m) = 10dB
Distributor attenuation: 6dB + 1dB = 7dB
Total attenuation: 10dB+7 dB = 17dB

Apartment 4 from the storey door:
Line attenuation: 5m+5m = 10m;
                         10m x (2dB/10m) = 2dB
Distributor attenuation: 12dB
Total attenuation: 2dB+12 dB = 14dB

:hager
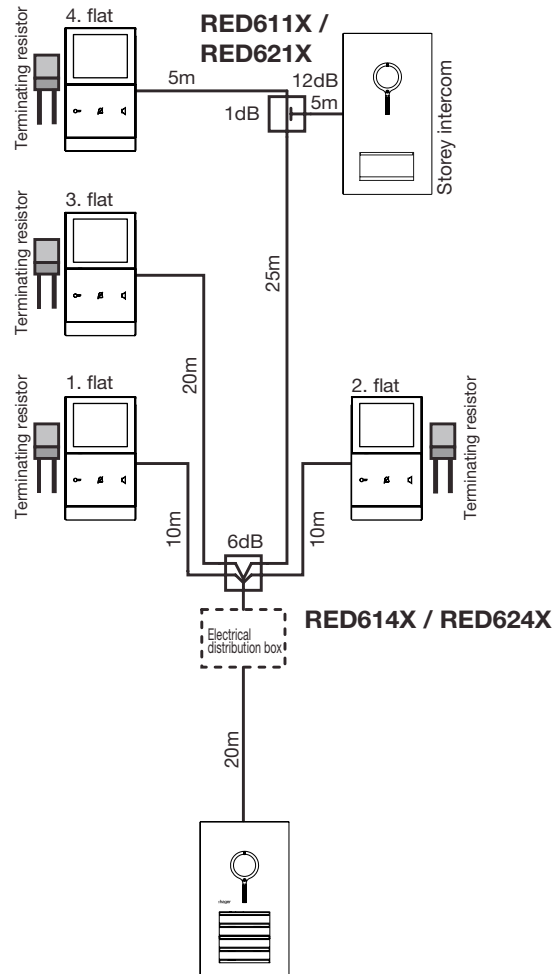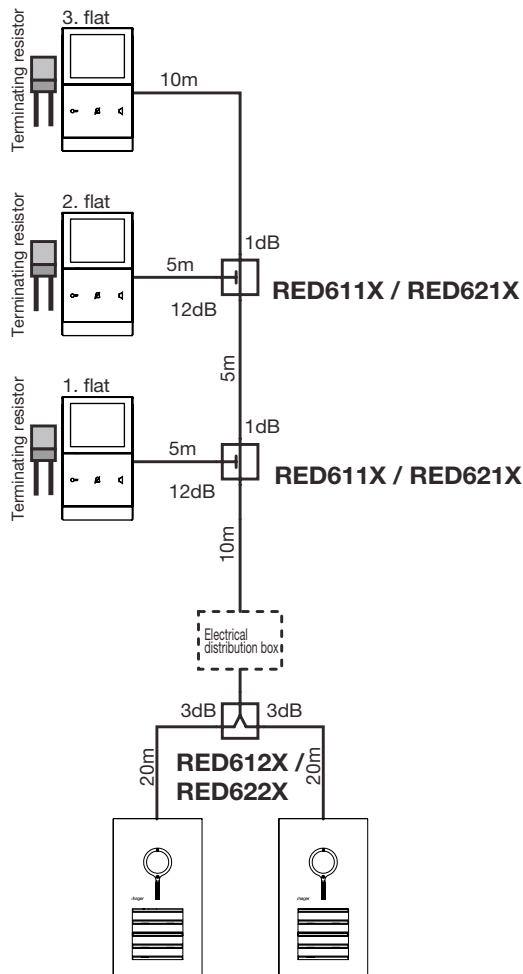
Structure expansion

The RED111X line coupler extends the 2-wire system solution to up to 256 devices with up to 150 main doors, thus making it possible to implement highly complex applications.

Scaling the 2-wire system technology

The performance scope of the 2-wire system technology on a single-line basis is limited to a maximum of 32 indoor intercom units. Using the RED111X line couplers, this installation method can be multiplied as part of a backbone infrastructure. The RED111X line couplers (backbone) are connected between the input and device infrastructure and linked to each other. This means that the usual installation setup with star, stub and series wiring remains unchanged. The system is scaled by distributing input and device lines to up to 64 interconnected line couplers.

Cable length up to 550 m, 3 voice channels in the backbone

The cables in the backbone between the first and last (decentralised) line coupler can be up to 300 m long. Up to 100 m is permissible between the outdoor intercom unit and the line coupler, and up to 150 m between the indoor intercom unit and the line coupler. This means that a cable length of up to 550 m can be achieved between the outdoor intercom unit and the indoor intercom unit. In the backbone itself, up to 3 voice channels are available for conversations between the lines, which enables simultaneous conversations between the outdoor intercom units and the devices on the same coupler line. This ensures reliable coverage in the event of high visitor numbers at multiple entrances. The RED111X line coupler can also be used for light control and tamper-proof door release activation.

Performance features
- Cost-effective due to reduced number of components
- Easy system planning and commissioning
- Up to 256 devices
- Up to 150 main doors
- Up to 3 simultaneous voice channels in backbone
- Up to 550 m cable length

Functional diagram of RED111X line coupler

2-wire series connection

REK621X

Storey call push-button

REK621X

Storey call push-button

REK221X

Storey call push-button

2-wire stub line

REK621X

RED611X/
RED621X

Storey call push-button

REK221X

RED611X/
RED621X

Storey call push-button

2-wire star wiring

STOREY ENTRANCE

REK621X

RED611X/
RED621X

RED622X/
RED624X

REK221X

Storey call push-button

RED612X/
RED614X
Distributor

Indoor line only
All wiring forms possible

POWER DISTRIBUTION UNIT

Outdoor and indoor intercom units on the line coupler
All wiring forms possible

RED013X Power upply	RED111X Line coupler	ST320 Trans-former

RED013X Power upply	RED111X Line coupler	ST320 Trans-former

RED013X Power upply	RED111X Line coupler	ST320 Trans-former

RED013X Power upply	RED111X Line coupler	ST320 Trans-former

BACKBONE

RED612X/
RED614X
Distributor

RED612X/
RED614X
Distributor

Door line only
All wiring forms possible

i2 audio device.

i2 audio bus components only:
RED361X, etc.

Door release *

REQ516X

MAIN ENTRANCE

REQ008X

REQ606X

... OTHER ENTRANCES ...

REL501X

... UP TO 150 ENTRANCES

*) Door release connection either
- in the distributor on the integrated relay of the line coupler or
- on the integrated relay of the outdoor station

In the case of audio-only systems, it is possible to omit distributors and branches.

IP technology

With HAGER, it is easy to integrate an intercom system into an IP-based network. This is because the IP components rely on the SIP standardised network protocol. With this technology, a door intercom system with video function can be conveniently operated using a smartphone or tablet with WLAN access. Companies can integrate intercom systems into existing VoIP environments, for example, enabling very high numbers of devices/doors.

02

Page

IP door loudspeaker module

:hager

Seamless integration of SIP telephony solutions

The IP loudspeakers are very compact built-in modules for the MODESTA door station system. The IP-enabled door loudspeaker modules follow the established SIP standard in accordance with RFC3261 and are suitable for integration into IP or VoIP infrastructures.

The module supports direct client connections via "peer-to-peer" and (extension unit) registration on VoIP-enabled telephone systems or SIP providers. The module behaves like a conventional SIP client (VoIP telephone) and can therefore be used in a telephone system infrastructure without any additional hardware or special configuration. This means that the performance features of the telephone system can also be used for door communication.

The device has 2 Ethernet interfaces for cascading multiple door intercom modules or connecting an IP camera. There are also 5 connections for 4 bell push-buttons and 1 direct call button, 2 switching relays for light and door release and an extension connection for up to 5 diode matrices comprising 15 bell push-buttons, display call module or direct call dial keypad. Power is supplied either via Power over Ethernet or via an external DC power supply. Phone directory management can be carried out conveniently and flexibly via the installed web server.

Main features
- Door loudspeaker module based on IP technology with 2 Ethernet ports
- 4 connections provided for bell push-buttons, can be extended
- Device management and configuration via web interface
- Power supplied via Power over Ethernet or power supply (RED013X)

RTN300X

IP AUDIO module half-duplex

Colour:	Stainless steel, metal brushed
Material / surface:	Metal, stainless steel brushed
Dimensions (W x H x D):	120/120/45 mm
Operating voltage via power supply:	20 to 36 V DC
Operating voltage via network:	Power over Ethernet IEEE 802.3af class 2
Output current:	max. 200 mA
Power consumption (operation):	4 W
Switching contact potential-free:	24V/2A
Configuration:	Via integrated web server
Protocols supported:	IPv4, TCP, RTP, DHCP, DNS, UDP, HTTP, TFTP, NTP, VLAN (IEEE 802.1pq)
Installation mode:	Built-in installation
Operating temperature:	-20 to 50 °C

- Assigning call push-button/destination call number via integrated phone directory
- call establishment, call acceptance , reject calls
- call acceptance confirmation, chain call, redial
- reaction to calls from unknown callers can be configured
- up to 5 call destinations definable via integrated push-button connections
- up to 60 call destinations definable by display call module
- up to 75 call destinations definable by push-button matrix
- up to 116 call destinations definable by keypad speed dial

- Integrated HTTP web server
- echo suppressor control
- loudspeaker sound volume adjustable
- microphone sensitivity adjustable
- horizontal loudspeaker openings , horizontal, laser-cut, metal gauze for puncture protection
- relay switching state and switching duration programmable
- door release signalling, signalling of incoming calls
- individual announcement text
- status and remote control messages by UDP
- integrated 2gang Ethernet switch RJ45, 10/100 Mbit/s Auto-Sensing PoE
- up to 5 call push-buttons can be connected
- two potential-free relay switching contacts (NO contact)
- Micromatch female connector strip for push-button matrix, keyboard and display call module
- voltage output 24 V/200 mA for name plate lighting
- Power, network connection/activity, SIP registration, reset status
- password protection
- SIP - RFC 3261 compliant, STUN Client, NAT Traversal, PRACK
- SIP server, user ID, authentication PIN, authentication ID

Description	PU	Order no.
IP AUDIO module half-duplex built-in stainless steel matt Modesta	1	**RTN300X**

RTN301X

IP AUDIO module full duplex

Colour:	Stainless steel, metal brushed
Dimensions (W x H x D):	120/120/45 mm
Operating voltage via power supply:	20 to 36 V DC
Operating voltage via network:	Power over Ethernet IEEE 802.3af class 2
Configuration:	Via integrated web server
Installation mode:	Built-in installation

- loudspeaker sound volume adjustable
- microphone sensitivity adjustable

- echo suppressor control
- horizontal loudspeaker openings , horizontal, laser-cut, metal gauze for puncture protection
- relay switching state and switching duration programmable
- door release signalling, signalling of incoming calls
- individual announcement text
- status and remote control messages by UDP
- password protection

Description	PU	Order no.
IP AUDIO module full duplex built-in stainless steel matt modesta	1	**RTN301X**

High flexibility via IP network technology

The IP camera is a very compact built-in camera module for the MODESTA door station system. The device is IP-ready and can be integrated into an IP infrastructure without additional components or converters.

The camera provides a motion JPEG stream with max. 640 x 480 pixels and 25 (15) images per second. It can be accessed via web browser using a JAVA plugin, Videophone client or suitable IP telephones. The system can be accessed simultaneously by multiple clients. The camera has an automatic greyscale/colour change-over and IR lighting for night operation. Power can be supplied either via Power over Ethernet or via an external DC power supply. Configuration is carried out via an integrated web server.

The IP camera module is the ideal video extension for the IP door loudspeaker module. The module is intended for installation in the MODESTA system.

General installation notes for camera modules:

The recommended installation height is approx. 1.60 m.

The cameras must **not** be aimed at:
- Lamps or other light sources
- Direct sunlight
- Image background with a high level of brightness or extreme contrasts
- Reflective walls

Main features
- Colour camera module based on IP technology with 1 Ethernet port
- IR lighting for night operation (automatic detection)
- Power supply via IP door loudspeaker or Power over Ethernet (endspan)

IP VIDEO module

Colour:	Stainless steel, metal brushed
Material / surface:	Metal, stainless steel brushed
Dimensions (W x H x D):	120/120/45 mm
Dimensions of front plate (W x H x D):	120/120/2 mm
Operating voltage via network:	Power over Ethernet IEEE 802.3af class 2
Configuration:	Via integrated web server
Protocols supported:	IPv4, TCP, RTP, DHCP, DNS, UDP, HTTP, TFTP
Image frequency:	15 fps at 640 x 480 px, 15/20/25 fps up to 320 x 240 px
Camera resolution:	640 x 480 px, 320 x 240 px, 160 x 120 px, user-defined
Camera aperture angle horizontal:	83 °
Camera aperture angle vertical:	65 °
Camera objective:	2.5 mm
Camera light sensitivity F2.0:	0.1 lx

Authentication: Via user name/password: on/off; image/video release via IO control: on/off
Installation mode: Built-in installation
Operating temperature: -20 to 55 °C

- Motion JPG, JPG single-image display (AXIS VAPIX compatible)
- Integrated HTTP web server
- JPEG quality from 10 - 100% adjustable, 4x digital zoom, image rotation, image shift
- integrated network interface RJ45, 10/100 Mbit/s Auto-Sensing PoE
- user name, password protection, authority level: Admin, Viewer
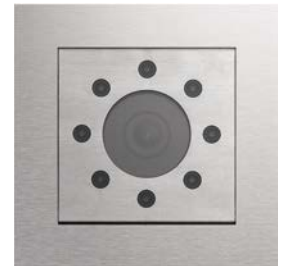
RTN500X

Description	PU	Order no.
IP VIDEO module built-in stainless steel matt Modesta	1	**RTN500X**

ELCOM.MODESTA push-button modules

Colour:	Stainless steel, metal brushed
For labelling strip:	12 mm
Dimensions of front plate (W x H x D):	120/120/2 mm
Dimensions of name plate (W x H):	60/15 mm, 80/50 mm
Operating voltage:	24 V DC
LED operating voltage:	12 V AC

REN001X

Description	PU	Order no.
Round push-button module 1/1 with LED name plate built-in	1	**REN001X**
Round push-button module 2/1 with LED name plate built-in	1	**REN002X**
Round push-button module 3/1 with LED name plate built-in	1	**REN003X**
Round push-button module 4/1 with LED name plate built-in	1	**REN004X**
Round push-button module 1/1 with large LED name plate built-in	1	**REN009X**

2-wire technology

We offer various extension modules which enable the IP system to be used in infrastructures with a high number of devices. The direct dialling keypad module is suitable for special requirements such as "code lock access control" or "door sta-tion as robust IP intercom unit". The following modules are built-in modules for the MODESTA door station system.
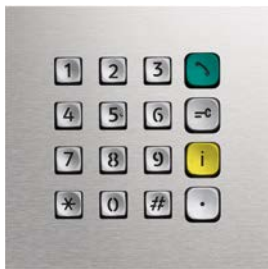
RTN710X

IP display call module

Colour:	Stainless steel, metal brushed
Material / surface:	Metal, stainless steel brushed
Dimensions (W x H x D):	120/120/40 mm
Configuration:	Activation via wire jumper, configuration via buttons
Installation mode:	Built-in installation
Operating temperature:	-20 to 70 °C

The display call module adds a convenient call destination selection function via display to the IP audio module. The display module is connected via the extension port of the IP audio module and is managed via the integrated phone directory. The devices are selected and dialled via the push-buttons. Up to four display call modules can be cascaded. 60 devices are supported in total; in the case of multiple display call modules, the number of devices is divided accordingly. A display call module is supplied with voltage via the IP audio module door loudspeaker module.

- power supply: 1x display call module via IP audio module
- additional RTN710X via external power supply (RED013X) via external power supply (NGV-500)

- green illuminated 2-line LC display with 32 characters
- Integrated flush-mounted stainless steel buttons, laser engraved symbols
- For selection of device, for call selection
- operation/function only in combination with IP door loudspeaker module
- 60 call destination entries each with 32 characters for the name
- call destination entry definition via phone directory of the IP door speaker
- call destination sorting via phone directory of the IP door loudspeaker
- easy operation by means of 3 button function (up/down/call)
- display of call status and intercom connection
- Micromatch female connector strip for connection to IP door speaker
- Micromatch female connector strip for connection to additional display call module, keyboard or diode matrix module
- additional power supply when cascading multiple display call / keyboard modules
- up to 4 display call modules cascadable for distribution of the call destinations (max. 60)

Description	PU	Order no.
IP display call module built-in stainless steel matt Modesta	1	**RTN710X**

RTN100X

IP direct dialling keypad module

Colour:	Stainless steel, metal brushed
Material / surface:	Metal, stainless steel brushed
Dimensions (W x H x D):	120/120/42 mm
Operating voltage via network:	Via IP door loudspeaker
Installation mode:	Built-in installation
Operating temperature:	-20 to 70 °C

The IP direct dialling keypad module enables pin codes to be entered freely in combination with the IP audio module. It enables high flexibility and is particularly well-suited to operation with a large number of devices. The bell push-button connections on the IP audio module can also be used. Furthermore, an IP push-button extension can be used to connect up to 15 additional bell push-buttons in the system.
The relays integrated in the IP audio module can be switched by entering a pin. Power is supplied via the IP audio module.

- Power supply: via IP audio module
- Aluminium buttons, symbols blue, LED backlit
- Selection of central call, selection of call number, selection of short dials for code entry
- dialling of any call numbers
- dialling of IP addresses
- dialling of numbers stored in phone directory
- dialling of indexes in phone directory
- dialling of the central call number
- operation/function only in combination with IP audio module
- access control via combination of numbers possible
- individual 4 digit codes for relay circuit programmable
- up to 40 different codes definable
- code for second relay depending on code definition of first relay
- own switching duration for each relay (via door module)
- changing of codes via network
- Micromatch female connector strip for connection to IP audio module

Description	PU	Order no.
IP direct dialling keypad module built-in stainless steel matt Modesta	1	**RTN100X**

IP push-button extension

Material / surface:	Plastic, fibre-reinforced
Dimensions (W x H x D):	95/90/20 mm
Device addressing:	Wire jumper setting
Length of connection cable:	≈ 15 cm
Installation mode:	Rear installation

The IP push-button extension can be used to add additional bell push-buttons to the IP audio module. Up to 5 extension modules can be cascaded (for max. 75 bell push-buttons). The connection board is installed in the door station. The call destination of the bell push-button is defined in the phone directory of the IP audio module.

- The module is intended for installation in the MODESTA system in conjunction with the IP audio module
- operation/function only in combination with IP audio module
- request of the call push-button status
- up to 5 push-button extensions cascadable
- Micromatch female connector strip for connection to IP audio module
- Micromatch female connector strip for connection to additional display call module, keyboard or diode matrix module
- up to 15 call push-buttons can be connected
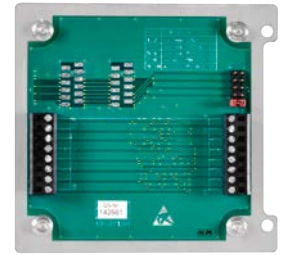
RTN720X

Description	PU	Order no.
IP push-button extension built-in Modesta	1	**RTN720X**

Flexible use – easy installation
The IP intercom system server forms a single unit with our IP components and therefore represents a complete solution for video door communication based on IP technology.

The function and system concept of the intercom system server is fixed and is specially designed for door communication requirements. This means that common scenarios for sophisticated home environments and small office applications can be implemented relatively easily without a great deal of configuration work.

The independent outdoor sub-network and the main home/company network are separate, ensuring a high level of security and quick and easy installation.

Configuration takes place via an integrated web interface. The device has 4 gigabit network interfaces.

Notes on system planning:
Please refer to our installation documents and application scenarios for advice when planning your system. If you have any questions, our support team will be happy to help you.

Main features
- Controller unit for ELCOM IP components and Videophone clients
- Fixed function concept, minimum configuration work
- 4 LAN interfaces, configuration via integrated web interface

RTD110X

IP intercom system server

Colour:	White glossy
Material / surface:	Plastic
Dimensions (W x H x D):	162/142/35 mm
Operating voltage via network:	Power over Ethernet IEEE 802.3af class 2
Configuration:	Via integrated web server
Protocols supported:	IPv4, TCP, RTP, DHCP, DNS, UDP, HTTP, FTP, NTP, SSH, SCP

- Integrated HTTP web server
- firmly defined functional concept for door communication applications

- 4 call groups per 9 user accounts, 1 call group via all user accounts
- per call group 4x UDP/SIP-info, 4x TCP/SIP-info, 1x UDP/RFC2833
- call acceptance confirmation, chain call, redial
- overview on the server of registered clients
- password protection
- integrated 4gang Ethernet switch RJ45, 10/1000 Mbit/s Auto-Sensing
- 1 LAN port for power supply via Power-Over-Ethernet
- DC socket for power supply via external power supply

Description	PU	Order no.
IP intercom system server surface-mounted white	1	**RTD110X**

The switching relay enables

The switching relay enables switching and control functions in the IP system in combination with the IP audio modules. This means that a tamper-proof door release circuit can be implemented in an indoor environment without additional wiring complexity for the door station.

The switching operations are triggered via a status message from the door loudspeaker module. Furthermore, it is possible to program direct activation via HTTP request (e.g. via a home automation system).

Possible functions include door release/light via DTMF from indoor stations and telephones. Switching during call establishment to operate a gong. During a call connection for light as well as the display of ready-to-operate and registered door modules in the case of security-critical applications.

IP switching relay 8gang

Colour:	Light grey matt	- for function-related switching/control functions
		- door release, light, call establishment, call connection
Dimensions (W x H x D):	88 x 90 x 58 mm	- 6x normally open contact, 2x change-over contact
DIN rail mounting:	(6 modules)	- supports up to 8 IP audio modules
Power supply:	9-30 VDC (RED013X)	- configuration via integrated web interface

Description	PU	Order no.
IP switching relay 8gang RMD	1	**RTD111X**

SIP relay PoE

Colour:	Light grey matt	- for individual switching and controlling applications e.g. door release tamper protection, light by DTMF, operation of gongs
Dimensions	(W x H x D): 52 x 90 x 58 mm	- activation by IP door loudspeaker via status messages, alternative: direct control via http requests
DIN rail mounting:	(3 modules)	- 2 change-over contacts, potential-free
Power supply:	PoE (configuration via integrated web interface)	

Description	PU	Order no.
SIP relay PoE 2gang	1	**RTD112X**

2-wire technology

Video door communication with Windows and iOS/Android devices
Software application for Windows operating systems, iOS and Android for convenient home communication via the IP network. Our IP components make it easy to implement a smart IP-based home communication system.

The functional scope covers the key features of a classic home communication system. This provides the user with a genuine video intercom based on software technology. The features include a video image before the call is accepted, various conversation and control functions, up to 4 doors or 3 additional monitoring cameras as well as a range of comfort and automation features. When combined with the intercom system server, this enables a simple system setup with high flexibility and quick commissioning.
Extensive configuration options allow the system to be adapted and integrated seamlessly into the desired application scenario.
Licence model and notes on planning:

The purchased software licence is intended for installation on devices in one household. A demo version is available so you can test the suitability of the software, particularly on a touch panel PC with hands-free operation. Please try out the demo version first. If you have any questions, our support team will be happy to help you.

Main features
- Software clients for audio and video door communication
- Up to 4 doors/combination of door and monitoring cameras
- Video image is displayed automatically before the call is accepted
- Control of door release and light relay, call to entrance
- Diverse configuration options for flexible use

RTS001X

IP Videophone client Windows

IP Videophone client for Windows operating systems
- Software client for audio/video door communication
- PC hardware (min.): 1.6 GHz (DC), 1 GB RAM, 100 Mbit, microphone and loudspeaker (suitable for headset or hands-free)
- System components: RTN500X, RTN300X / RTN301X, RTD110X
- Note: only intended for use in local network

- fully executable from Windows XP to Windows 8.1, no RT versions
- Embedded versions depending on package configuration
- Processor power for full functions: from 1.2 GHz, dual core
- German
- Universal symbols
- optimised for 4:3 video display in different resolutions, compressions, colours, frame rates
- user name and password for access to video stream
- Motion JPG HTTP-Video for ELCOM and AXIS
- IDS-VSE (also RTSP)
- supports from 1024 x 768 px
- automatic video image display on call
- automatic hang up after door release, delay definable
- automatic video switch off, delay definable
- automatic minimization of the application, delay definable
- fixed ring tone melody
- internal calls between devices configured in parallel
- automatic opening of the active application in standby and operation
- manual opening of applications via tasktray/task bar
- onscreen menu navigation for all settings
- operation mode for IP module, i2 interface, IP camera/ server

- definition of a video stream URL
- user name and password for video access
- assignment of the video stream for specific input SIP-ID
- definable input designation via contacts
- operation and control via buttons with status display
- call acceptance, door release, light relay
- door release & light directely upon incoming/outgoing call
- manual direct calling at any door
- up to 4 function buttons with inputs (video/audio), IP cameras or internal calls can be assigned
- DTMF sequences for door release and light configurable
- DTMF sequences for call establishment, end of call and camera
  (i2 interface mode only)
- auto-start of the application during system start adjustable
- auto-registration of the application during start adjustable
- predefined (changeable) settings for SIP-account, control commands, input/camera
- simple window overlay during incoming call configurable
- aggressive window overlay for full screen visualisation configurable
- protection against accidental termination
- up to 4 devices in parallel operation possible
- internal calls between devices configured with one another
- SIP - RFC 3261 compliant, STUN client, NAT traversal, outbound proxy, report

Description	PU	Order no.
IP Videophone client Windows	1	**RTS001X**

2-wire technology

Fit for the future according to open standards

The IP components rely on the open and widely supported SIP standard in accordance with RFC-3261. This makes the devices compatible with a wide range of IP telephone systems, IP telephones and software products from well-known manufacturers. The devices feature Ethernet ports and can be operated via Power over Ethernet. They can therefore be connected directly using standard network components without the need for special converters, controllers or servers. All of the possibilities offered by modern network technology can be utilised.

Scenarios for trade and industry

Connection via an IP telephone system
This configuration method enables a high level of flexibility when working with the individual SIP devices, as a telephone system (SIP server) is responsible for coordination. The SIP device is set up on the telephone system, on the SIP component where the SIP server is located (domain/IP address) along with the account and registration data. When a call is received, the SIP telephone system is contacted and this system then puts the call through to the device being called. It does not matter where the device is located – what is important is that the device (telephone/softphone) is registered on the SIP server and is accessible. This setup enables a very high level of flexibility and allows the intercom unit component to be integrated seamlessly into the telephony infrastructure. This means that the intelligent performance features of modern IP telephone systems can also be used for door communication.

Peer-to-peer direct connection
This type of infrastructure is a point-to-point connection. No further central communication components are required. The call is dialled directly via the IP address of the desired call destination. This is a cost-effective setup as there is no need for an IP telephone system. The disadvantage, however, is that it is a relatively rigid setup as the IP addresses are fixed when assigned and dialled, and there is more work involved when circumstances change. Please check that the telephony devices to be used are suitable for peer-to-peer connections.

IP telephony in industrial applications
As the SIP components act as independent telephony devices, they offer a diverse range of usage options. Wherever a telephone function is desired, these devices can be employed as robust and easy-to-use communication units.
For the operator, the flexible configuration and the option of remote maintenance, combined with the functions of modern telephone systems, offer the perfect overall package for security and service. Whether it is used in industrial applications or public areas, or built into machines and devices, telecommunication via the Internet offers enormous potential for the efficient implementation of all kinds of requirements.
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Call push-button configuration stating the SIP account of the end device
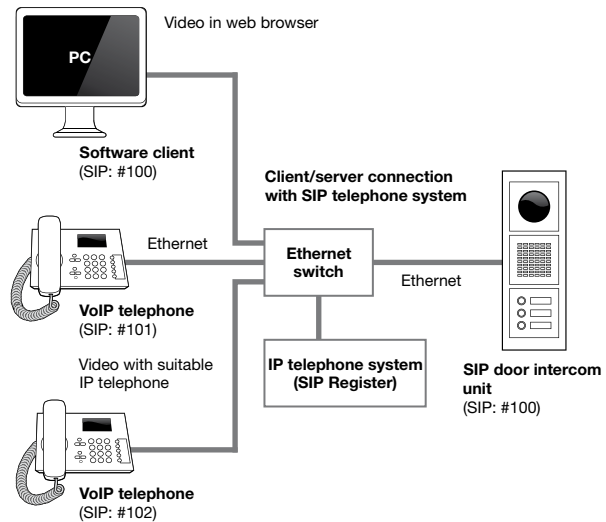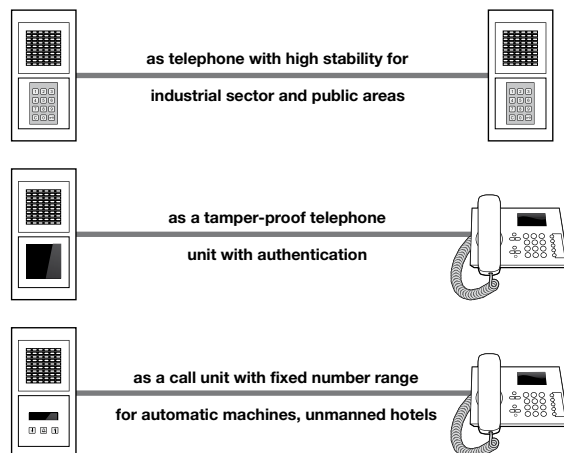

Call push-button configuration stating the IP address of the end device
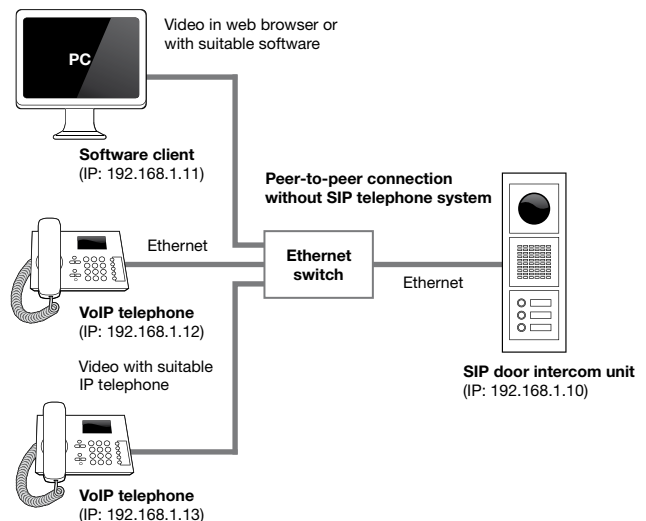
The SIP components are to be regarded as independent telephony devices and offer a diverse range of usage options

Scenarios for residential and office areas

The ideal communication solution for smart home installations

The new intercom system server and the software video telephones for Windows and iOS/Android systems now make it possible to achieve a fully IP-based door communication system for sophisticated home environments. (Touch) PCs, smartphones/tablets or standard IP telephones can be used as end devices. The functional scope covers the key features of a classic home communication system.

The features include a video image before the call is accepted, conversation and control functions, as well as a range of comfort and automation features. The user interface of the Windows version is optimised for touch panel PCs. The iOS/Android application is intended for use in local WLAN environments.

The system can be integrated into domovea building visualisation without any problems. The flexible system setup with two network segments (intercom system sub-network and main home/company network) ensures a high level of security and simple configuration with a multitude of combination options. This ensures that even the most demanding of customer requirements can be fulfilled. We consistently rely on standardised technologies in order to enable seamless integration into the existing network infrastructure. The systems are easy to plan and install as all necessary components are perfectly coordinated and, to a large extent, preconfigured.

Residential area

Office area

TOUCH PANEL
WDI070 / WDI100

Videophone
or domovea*

Access
point

Tel.
Tablet

Videophone
or domovea*

External IP camera
or video server

PC
WDI 101 /
WDI161

Main network

Videophone or
domovea*
(in residential and
office group)

Tel.
Tablet

Workstation telephone

TOUCH PANEL
WDI070 / WDI100

Videophone
or domovea*

domovea*

WLAN
Routers

IP/SIP telephone system

Optional coupling with
intercom system server

Intercom system
server

Relay

domovea*

Control:
door release, light
call signal, system status

Entrance of
residential area

Ethernet switch
(PoE)

Entrance of
office area

External IP camera
or video server

Relay circuit for ga-
rage door

Relay circuit for
light

Sub-network

Garden door

Ethernet

Driveway

* The connection to the building visualisation system is optional.

Diagram simplified for clarity.

Sets & kits

Audio or video, flush-mounted or surface-mounted: if you're looking for a package solution where everything is perfectly coordinated, you've come to the right place. The kits enable easy and convenient system planning and ordering – for audio or video communication in single-family homes or entire residential complexes.

03

Speak freely – see in colour.
The complete sets are basic solutions which provide a convenient way of securing single-family and two-family houses.
The video indoor intercom unit boasts an innovative operating concept and a large screen while keeping the dimensions as compact as possible. With its extensive scope of functions, the device is a perfect investment in your security.

The attractive surface-mounted door stations are a high-class, durable form of door communication which will complement the design of your entrance area. For optimal monitoring, the colour camera module has a mechanically adjustable swivel range of almost 180 degrees. Automatic greyscale mode and infrared lighting adapt the view to any light conditions.

REP101X

ELCOM.HOME set audio

System technology: 2-wire   - LED-illuminated bell push-button with name plate which can be changed from the front

- Door station in surface-mounted version
- Door station in anthracite plastic housing
- Very flat housing
- No visible fastenings

Description	Colour	PU	Order no.
REP101X audio set 1 device surface-mounted 2-wire	Indoor station white glossy, door station plastic anthracite	1	**REP101X**
REP101X audio set 1 device surface-mounted 2-wire	Indoor station white glossy, door station plastic anthracite	1	**REP102X**

REP501X

ELCOM.HOME set video

System technology: 2-wire   - Camera with mechanically adjustable swivel range, automatic greyscale mode and infrared lighting
- LED-illuminated bell push-button with name plate which can be changed from the front

- Door station in surface-mounted version
- Door station in anthracite plastic housing
- Very flat housing
- No visible fastenings

Description	Colour	PU	Order no.
REP501X video set 1 device surface-mounted 2-wire	Indoor station white glossy, door station plastic anthracite	1	**REP501X**
REP502X video set 2 devices surface-mounted 2-wire	Indoor station white glossy, door station plastic anthracite	1	**REP502X**

Our audio kits enable you to configure entire residential complexes quickly and effectively.

Basic audio kit

The basic audio kit can be installed at the rear of existing door stations or letter box systems.

Description	PU	Order no.
Audio kit basic 2-wire	1	**REK009X**

REK009X

Appendix

04

Page

Appendix

Alphanumerical price list

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REA111X	1 pc.	14
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REA121X	1 pc.	14
REA122X	1 pc.	14
REA125X	1 pc.	14
REA159X	1 pc.	17
REA511X	1 pc.	15
REA512X	1 pc.	15
REA513X	1 pc.	15
REA514X	1 pc.	15
REA521X	1 pc.	15
REA522X	1 pc.	15
REA525X	1 pc.	15
REA559X	1 pc.	17
RED011X	1 pc.	19
RED013X	1 pc.	21
RED111X	1 pc.	20
RED112X	1 pc.	21
RED113X	1 pc.	21
RED114X	1 pc.	20
RED311X	1 pc.	20
RED321X	1 pc.	20
RED361X	1 pc.	22
RED611X	1 pc.	19
RED612X	1 pc.	19
RED614X	1 pc.	19
RED621X	1 pc.	19
RED622X	1 pc.	19
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REK009X	1 pc.	59
REK221X	1 pc.	14
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REL501X	1 pc.	26
REL502X	1 pc.	26
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REN001X	1 pc.	43
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REN004X	1 pc.	43
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REN092X	1 pc.	29
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REN104X	1 pc.	28
REN230X	1 pc.	30
REN231X	1 pc.	30
REN232X	1 pc.	30
REN233X	1 pc.	30
REN410X	1 pc.	30
REN610X	1 pc.	30
REN700X	1 pc.	31
REN701X	1 pc.	31
REN702X	1 pc.	31
REN704X	1 pc.	30
REN705N	1 pc.	30
REN705S	1 pc.	30
REN705T	1 pc.	30
REN705X	1 pc.	30
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Appendix

We,

Hager SE
Zum Gunterstal
66440 Blieskastel, Germany

declare under our sole responsibility that all products with the CE marking from the
Hager, Berker and Elcom brands in the following product segments

- **Energy distribution and meter panel systems**
- **Cable routing and room connection systems**
- **Switch ranges and building automation**
- **Security technology and door communication**

meet the requirements of the following EU directives and regulations and their corresponding additions where applicable:

- **Low Voltage Directive 2006/95/EC**
- **Directive on electromagnetic compatibility 2004/108/EG**
- **Directive on radio equipment and telecommunications terminal equipment 1999/5/EC**
- **Directive establishing a framework for the setting of ecodesign requirements
  for energy-related products 2009/125/EG**
- **Measuring Instruments Directive 2004/22/EC**
- **Construction Products Regulation (EU) No. 305/2011**

This declaration certifies that the products comply with the specified directives and regulations but does not guarantee their properties.

The electrical engineer is responsible for ensuring that our products are used as intended and for setting up the system so that it is ready to use in accordance with the relevant installation regulations.

The CE marking is displayed directly on the product, on the packaging or on the outer packaging.

Hager SE acts on behalf of all of its direct and indirect subsidiaries.

Blieskastel, 1 March 2016

Dr.-Ing. Dominique Beck
Standardisation and Business Environment Manager – Hager Group

Appendix

The relevant national terms and conditions of delivery shall be included here.

Appendix

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