Communications systems

Product catalogue

HEALTH CARE

SCHRACK SECONET

Table of contents

1 General

Schrack Seconet security systems are developed in Austria, produced in Germany and incorporate both state-of-the-art technology and the latest scientific developments, while meeting all the latest applicable standards (European standards, requirements of European testing and certification bodies etc.). Schrack Seconet frequently cooperates with technical universities and international companies, as well as with testing and certification bodies, fire prevention centres and fire brigade associations, so that products can be constantly optimized and adapted to meet new demands.

The high quality of Schrack Seconet products is ensured using an ISO 9001 approved Quality Assurance system throughout the company's activities (from development through production and sales processes through installation to customer service).
Considerable attention is paid in the development of products towards the separation of materials used, reusability, disposal and recycling to ensure that materials were processed in an as environmentally sound way as possible.

To this document

These descriptions and technical specifications correspond to the status as of the date of publication. Schrack Seconet reserves the right to make modifications, in particularly where they are justified as a result of technological progress. In the course of continual development, the products delivered may differ optically from shown products. Information which is not contained in this document can be requested at any time from one of our offices.

The original of this document was written in German. Editions in other languages may include errors due to translation, Schrack Seconet assumes no liability for these.

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Explanation of symbols

Important notes in this document are identified by the following symbols. Failure to observe these instructions may result in malfunction of the security systems or in property or personal injury.

NOTE

Contains notices to help you use the product or system more effectively and easily. Usage is optional

CAUTION

Indicates a danger, the non-observance of which may result in financial loss or damage to property.

Electrical / electronical devices and batteries

Electrical and electronical devices or batteries may not be disposed of in household rubbish. Used electrical and electronical devices as well as batteries should be returned free of charge after use to the vendor or to the designated places for returning them (e.g. communal collection points or in shops).

Information about the structure of the catalogue

Introduction product groups

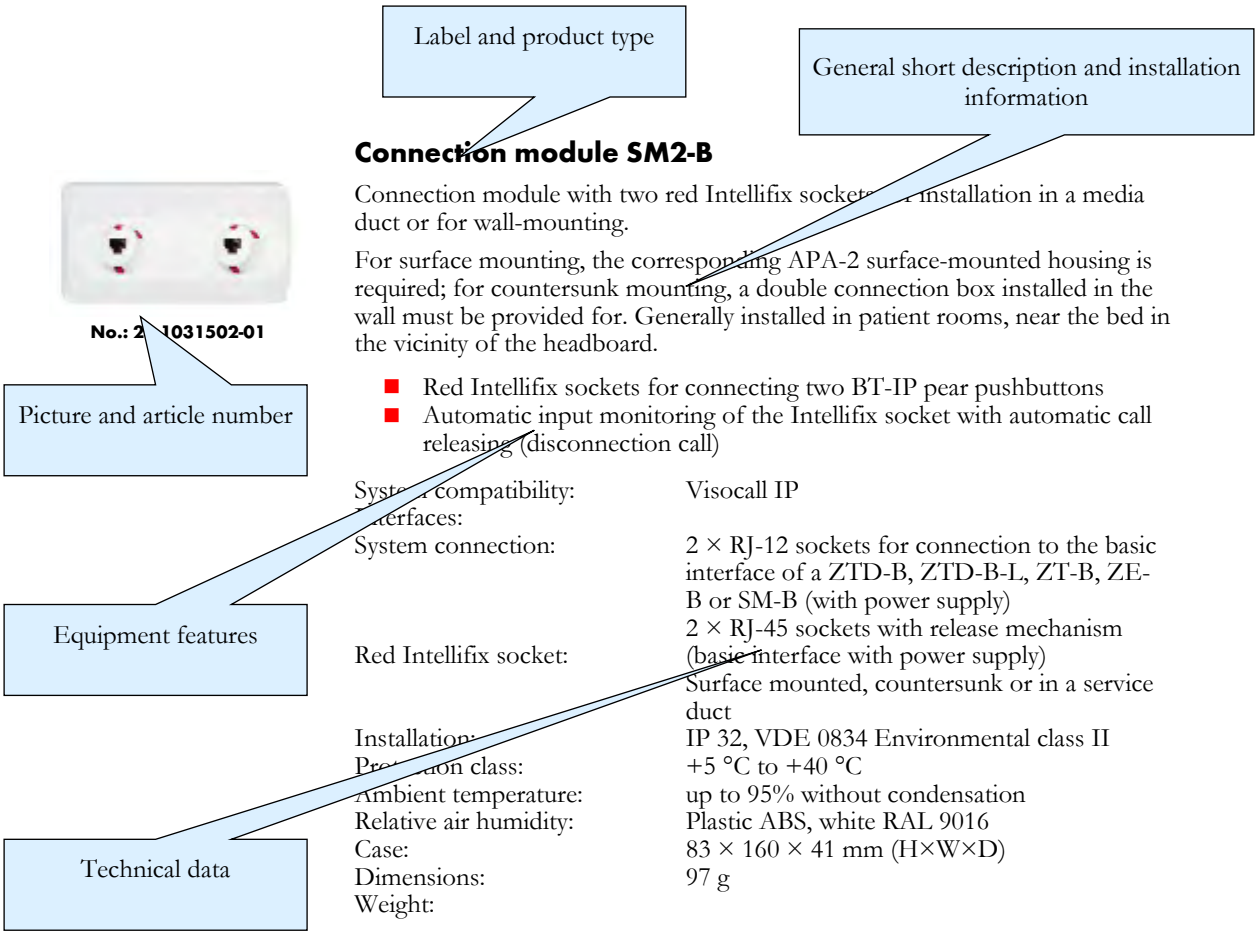
The product groups are divided into chapters. Each chapter begins with a description of the product group and the possible structure of products. The connection options for the system connection are shown in a diagram.

Product overview

The product overview is an overview of the available functions for each product. For each available function it is shown in which product this function is available.

Article description

The articles are described with the information shown:



Product list and accessories

At the end of a chapter all products and variants as well as the respective accessories and spare parts are listed. The overview table contains descriptions, the product types and the article numbers for ordering products.

2 General safety notes

The planning of security systems as well as the installation, commissioning and maintenance of products and the systems which they form required specialist expert knowledge, and therefore may only be undertaken by specially trained experts. The product-specific training of staff members must be carried out by Schrack Seconet or by skilled personnel who have been specifically authorised to carry out this duty by Schrack Seconet.

Schrack Seconet explicitly state, that security systems must be periodically maintained by certified and qualified personnel in accordance with the relevant standards (such as ÖNORM F 3070, VDE 0834), in order to maintain the functional and protective scope in the long term. For servicing and maintenance work on fire alarm systems, the currently valid regulations of the country in which the system is being operated shall apply.

In addition, the relevant country-specific regulations and guidelines for the planning, installation, service and maintenance must be adhered to and complied with. Damage and consequential damage caused by interventions or changes to products and their improper handling are excluded from liability. The same is also true for inappropriate storage of items and other detrimental external factors.

3 Visocall IP call systems

The most important thing: the safety of patients

Call systems in hospitals are primarily there to support people in emergency situations and to offer them assistance quickly. Reliability and fault-free operation is the highest priority fo Visocall IP.

3.1 System overview

Visocall IP brings together care, information, service, organisation and billing in hospitals using a common functional platform. IP-based network technology forms the economical, secure and extendible structure for all functions and services in the care sector.

The integration of several systems on a shared platform offers entirely new possibilities, increases security and reduces costs. The most important performance characteristics of Visocall IP at a glance:

- Nurse call
- VoIP telephony
- Multimedia, TV and radio
- Internet and Intranet
- Room control from the bed (lighting, blinds and TV)
- Care data logging
- Announcements and speech connections to patients and staff
- Mobile support for staff: Forwarding of alarms, calls, fault messages etc. to mobile devices e.g.: smart phones, tablets, DECT and WLAN telephones.
- Standardised interfaces for exchanging data and for communications connections between different systems (e.g. mobile devices and databases)

Conforming with VDE 0834

Visocall IP is certified in accordance with VDE 0834 and therefore fulfils the highest requirements for security and reliability.

A fail-safe system

Visocall IP is not dependent on the system's backbone: The intelligent system elements also perform their task without a network or a server.

Automatic fault detection

Visocall IP monitors itself: System faults are automatically detected and are forwarded immediately to the responsible member of the technical staff. Detailed fault descriptions are made available immediately to mobile devices via pagers, DECT, smart phones or tablets.

Visocall IP offers affordable installation and operation. The system is based on a topology and is realised with a standardised cable for data, speech and multimedia. This provides for versatile functions and options. At the same time the call system is easy to plan.

Deployment state-of-the-art network technology

Affordable standard network technology is used for Visocall IP. Existing network structures can also be used.

Modular system: incremental structure options

Additional functions like the solution for protecting patients with dementia, care data logging or patient entertainment can also be activated at any time at a later stage, and ongoing operation is not affected in any way.

Simple to renovate and revitalise

Existing cable ducts can be reused, as a single network cable does not take up much space. Older Schrack Seconet systems can also be functionally integrated into the Visocall IP platform – thereby vindicating previous investments.

Visocall IP lowers your operating costs

Thanks to the simple structure used, expense for servicing and maintenance can be minimized.

Plug & play: Plug and socket connections and pluggable modules

When installing or replacing modules there is nothing that can go wrong. What using to require being screwed in is now available as a plug-in module. This adds up to plug & play without time-consuming programming or configuration.

Intellifix – self-disconnecting plugs

The plug yields in the event of tensile loads from any direction. Cables do not tear, sockets are protected, and the most common causes of repair can be avoided. Intellifix is also exceptionally cheap and is included on every system device as standard.

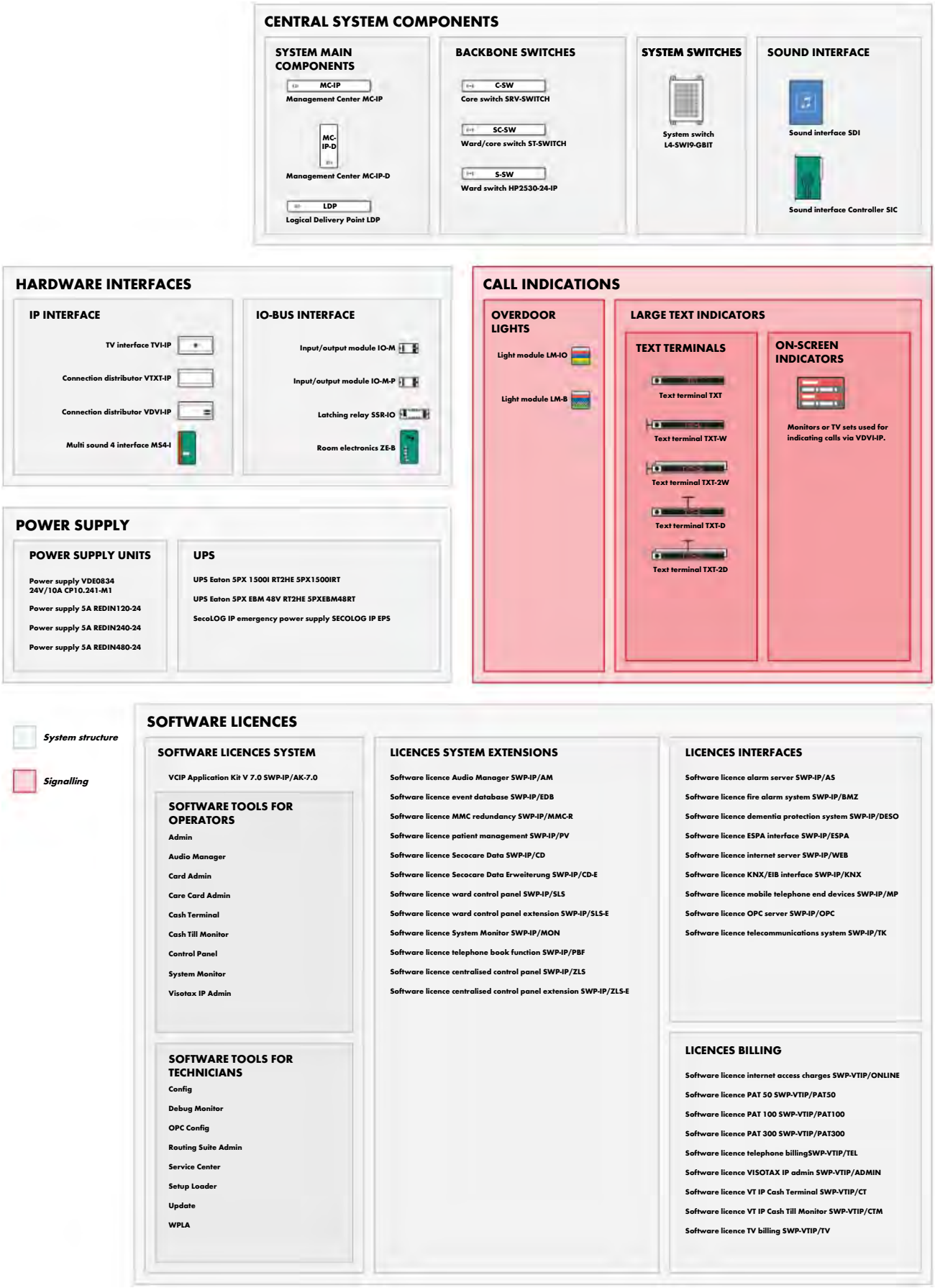
Centralised firmware uploads and software updates

New functions, software and updates for all devices can be uploaded from a central location.

Remote diagnosis and remote access

The, Service- responsible for maintenance, and check the overall state of the system from any location and deploy technicians in a targeted fashion.

Overview of components



ANSWERING UNITS

Centralised control panel
A control panel is a software application (software licence centralised control panel) installed on a computer connected to the network of the call system.

Ward control panel
A control panel is a software application (software licence ward control panel) installed on a computer connected to the network of the call system.

Staff Terminal ST-TOUCH

TERMINALS

COMMUNICATION TERMINALS
- Communications terminal KMT
- Communications terminal KMT-L

ROOM TERMINALS
- Room terminal ZTD-B
- Room terminal ZTD-B-L
- Room terminal ZT-B

RFID TERMINALS
- RFID terminal RFID-IO-FRT
- RFID terminal RFID-IO

PUSHBUTTONS

IO-BUS PUSHBUTTONS
- Call pushbutton RTB-IO
- Call and service pushbutton SRT-IO
- Doctor call pushbutton ART-IO
- Cancel pushbutton AT-IO
- Presence pushbutton AWT-IO
- Call/cancel pushbutton piezo RAT-P-IO
- Call/cancel pushbutton RATB-IO
- Doctor call/cancel pushbutton piezo ARAT-P-IO
- Pull cord call switch ZTB-IO
- Pull cord call switch/cancel pushbutton ZRAT-IO
- Pneumatic call switch PT-IO

BASIC PUSHBUTTONS
- Call pushbutton RTB-B
- Doctor call pushbutton ART-B
- Cancel pushbutton AT-B
- Call/cancel pushbutton RATB-B
- Pull cord call switch ZRTB-B
- Pull cord call switch/cancel pushbutton ZRAT-B
- Pneumatic call switch PT- B

CONNECTION MODULES

DIAGNOSTIC MODULES
- Diagnostic module DM-IO
- Diagnostic module DMU-IO
- Diagnostic module DM1-IP
- Connection module SMF-B

CONNECTION MODULES

IP CONNECTION MODULES
- Connection module SM
- Connection module SM-MMC
- Connection module SM-S

IO-BUS CONNECTION MODULES
- Connection module SM-B
- Connection module SMU-B

BASIC CONNECTION MODULES
- Connection module SM1-B
- Connection module SM2-B
- Connection module SM1-B-S

Blue Intellifix socket for IP components (patient terminals, BT-IP, ST-TOUCH)

Red Intellifix socket for basic components (BT-B)

ACCESSORIES
- Diagnostic adapter AD-DIA
- Diagnostic connections DSTK-W-VCIP

MULTIMEDIA

SYSTEM TV
- Room TV
- Beds TV

MULTIMEDIA TERMINALS
- MediPaD MP16
- MediPaD MP13
- MediPaD MP10

PATIENT HANDSETS

PATIENT TERMINALS
- Patient terminal PAT
- Patient terminal PAT-E
- Patient terminal PAT-L

PEAR PUSHBUTTONS
- Pear pushbutton
- BT-IP
- Pear pushbutton

BT-B

RADIO COMPONENTS

RADIO RECEIVER
- Radio receiver VR6-5
- Radio receiver VR6-5 DIN-NT

RADIO TRANSMITTER
- CareMat A01T-L869
- CareMat B01T-L869
- Combination radio transmitter F-VMS-869
- Radio pneumatic ball-type button F-PS-869
- Radio Pneumatic transmitter P53
- Radio call pushbutton F-RTS-869
- Radio universal transmitter F-VMUS-869
- Radio pull cord call switch F-ZS-869
- MediPad cushion transmitter F-MP-869
- Universal radio pull cord call switch UF-ZS-869
- arioFon noise detector F-GSM-869
- VarioMent Plus wandering detection system F-WLS-869

INTERCOM TERMINALS

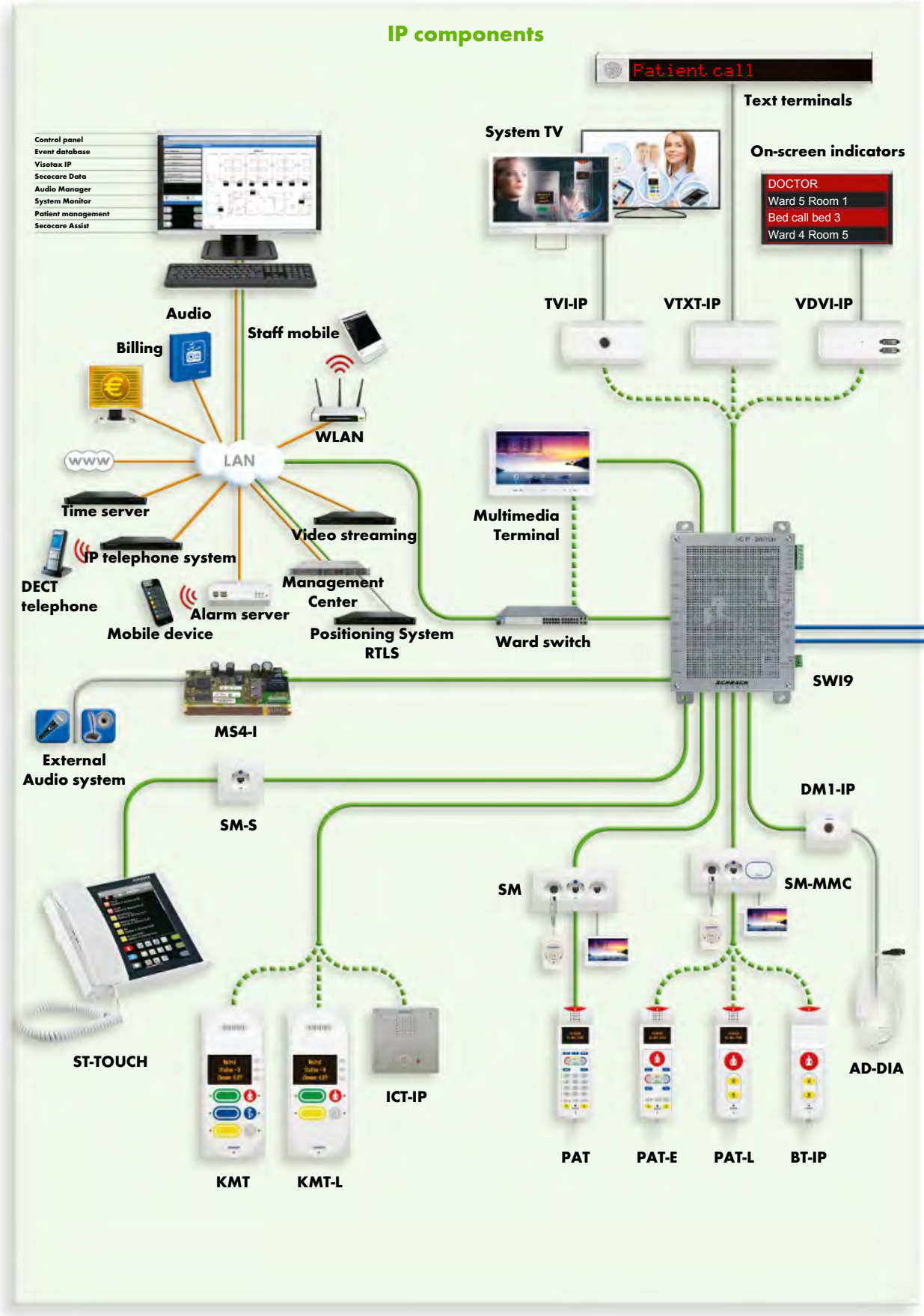
Intercom Terminal ICT-IP

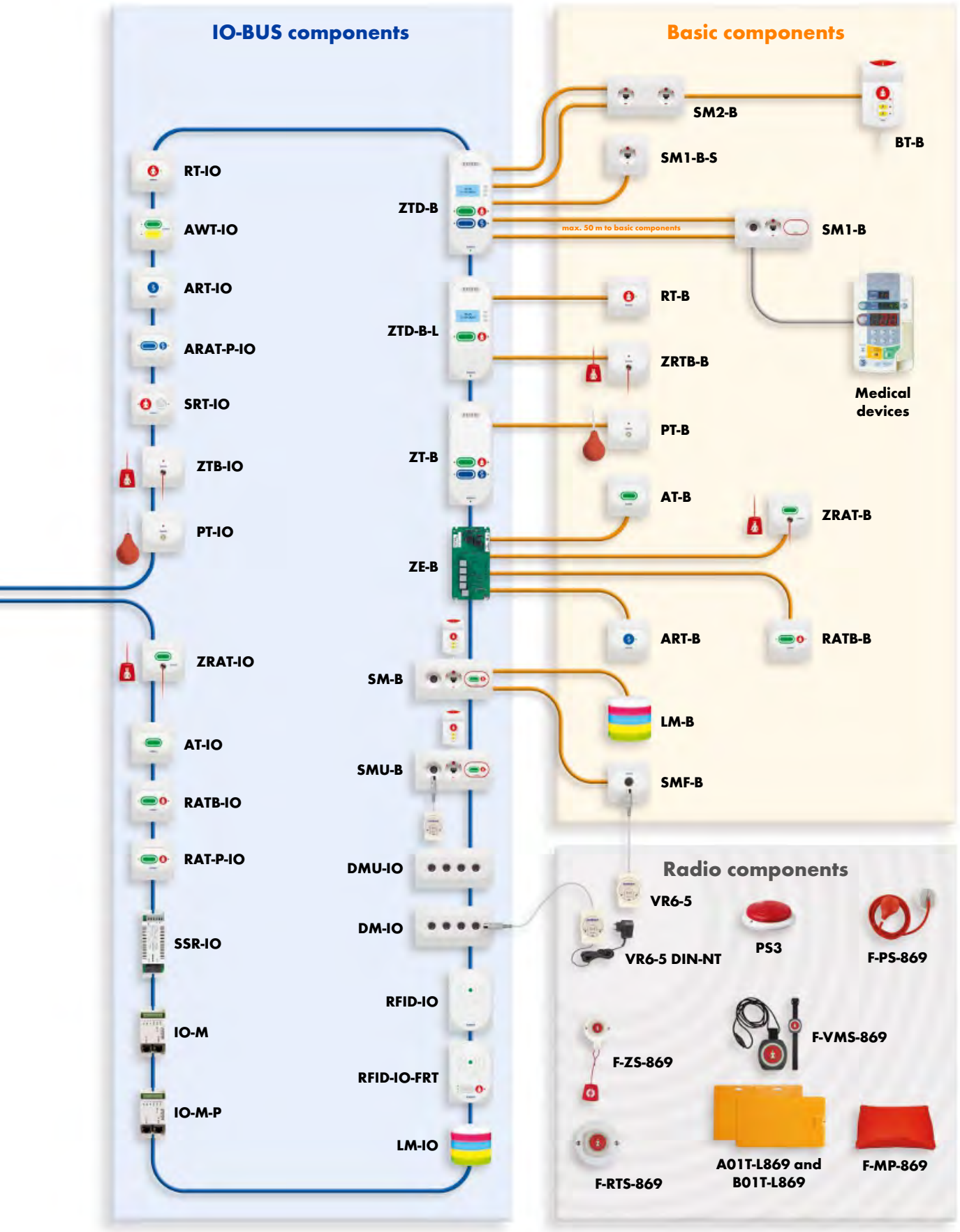
Visitor intercom terminal is made up of the system function visitor intercom terminal an a staff terminal.

CALL DEVICES FOR SPECIAL APPLICATIONS
- Noise monitor SW-NT-OK
- CareMat A01C
- CareMat B01C

operated by staff | *Connection modules* | *operated by patients*

System structure




IO-BUS components
Basic components
RT-IO
AWT-IO
ART-IO
ARAT-P-IO
SRT-IO
ZTB-IO
PT-IO
ZRAT-IO
AT-IO
RATB-IO
RAT-P-IO
SSR-IO
IO-M
IO-M-P
ZTD-B
ZTD-B-L
ZT-B
ZE-B
SM-B
SMU-B
DMU-IO
DM-IO
RFID-IO
RFID-IO-FRT
LM-IO
SM2-B
SM1-B-S
max. 50 m to basic components
SM1-B
BT-B
RT-B
ZRTB-B
PT-B
AT-B
ART-B
RATB-B
ZRAT-B
LM-B
SMF-B
Medical devices
Radio components
VR6-5
VR6-5 DIN-NT
PS3
F-PS-869
F-VMS-869
F-ZS-869
F-RTS-869
A01T-L869 and B01T-L869
F-MP-869

Explanation of terms/glossary

2 × MOPP

2 × Means Of Patient Protection: Special safety measure for minimising the risk of electric shock for patients.

Answering button

Communications terminal button taking answerable calls and for making announcements.

Monitor lock

To establish a speech connection, the selected call partner must actively accept the call by pressing a button.

Cancel button

Button for deactivating calls of a predefined category. Cancel buttons can either be green (care staff) or blue (medical staff). If a call is released in an adjoining room, for which a cancel button has been allocated, the status LED of the cancel button will light up. This will show arriving staff which button must be used to cancel the call. Pressing the button will cancel the call and the status LED will go out. Actuating cancel button will neither set nor deactivate presences. Other than is the case with presence buttons, the status LED of a cancel button will not light up when the button is pressed repeatedly.

Disconnection call

Call automatically released when disconnecting a patient handset. The call must be acknowledged by connecting the patient handset and carrying out a subsequent function test (actuation of the flashing call button).

Presence button

Button for setting and deactivating presences of a predefined category. Presence buttons can either be green (care staff), yellow (service staff) or blue (medical staff). By pressing the device once, a presence of the relevant category will be set and the status LED next the button will light up (parallel indication to light module). The set presence will cancel calls addressed to this staff category. Pressing the button again will deactivate the presence and the status LED will go out.

Doctor call

Where the presence is set by a care staff, a doctor call can be released by pressing the doctor call button.

Doctor call button

A doctor call button triggers a call, addressed to the medical staff. The button is blue with a white staff of Aesculapius. Regardless of the set presence, one of the following calls can be released:

- Doctor call (green presence + doctor call button)
- Heart alarm (yellow presence + doctor call button)

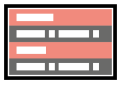
Backbone switch

Collective term for core switches, ward/core switches and ward switches. System switches form an own product group and do not count as backbone switches.

Beds TV

The system TV installed at each individual bed and can only be controlled by the bed's patient terminal.

On-screen indications



Monitors or TV sets used for indicating calls.

Diagnostic disconnection call

Call automatically released when the connection of a diagnostic socket is disconnected.

Event database

System extension for the automatic logging of call system events, e.g. calls, presences, reminders, etc. The software and the recording run centrally on the Management Center of the call system. The data can be inspected and analysed via a web interface. Analyses can be exported as PDF and CSV files.

Wet rooms

This term in accordance with VDE 0834 is used as a collective term for toilets and bathrooms. Humid room is used synonymously for it.

Locating and reassurance light

Small LED for locating buttons and indicating the status of the relevant function. The LED displays a permanent faint glow and will lighten up when the relevant button has been pressed its function has been activated (e.g. call buttons). The LED will not go out when the same button is pressed again, as repeat pressing will not deactivate the function (e.g. a call will remain active even when the call button is repeatedly pressed). The LED will stop shining brightly when another button is pressed, cancelling the released function (e.g. pressing the corresponding presence button will deactivate the call and the LED of the call button will return to a faint glow).

Group, care group and direction lamp

Combination of optical indications for several rooms installed in corridors Use is optional; alternatively, numeric or alphanumeric displays can be used (large text indicators).

Heart alarm

Where the presence is set to yellow, a heart alarm can be released by pressing the doctor call button.

Individual requiring assistance

Individuals requiring assistance in an extraordinary situation and who are able to call for help themselves e.g. by pressing the call button (e.g. if a patient is mobile and is able to wash themselves, however, requires one-time help due to slipping in the shower).

Management Center

Server with the software required for operating a Visocall IP call system. The server acts as the centralised node for all kinds of external systems and takes over key functions for the entire call system. The Management Center is connected with the system switches via the network of backbone switches. Starting from application kit 6.0, a Management Center can be provided with hardware redundancy.

Reminder

Deactivates the active display of individual calls for a specific period of time. Reminders can be called up via special devices, e.g. answering units. After expiry of the predefined period, the reminder is terminated and the call will be displayed in the system again. Reminders may only be set if a speech connection has been established with the caller and the caller has been consulted.

Wet group

A wet group is a wet room (toilet, shower) allocated to one or several rooms and which generally accessed by these.

Patient handset

Collective term for patient terminals (PAT, PAT-E, PAT-L) and pear pushbuttons (BT-IP, BT-B). The devices are designed to release patient calls. They are designed as handy handheld devices for use from patient beds. The devices can be changed any time by simply plugging them in and out. In accordance with VDE 0834, this will generate a disconnection call in the system. All patient handsets are equipped with locating or reassurance lights and are therefore suited for use in the dark.

PELV

Protective Extra Low Voltage: Special protection is provided by the grounded extra-low voltage

Individuals requiring care

Individuals requiring recurring help for completing various tasks; e.g. a patient is not able to get out of bed themselves and requires assistance going to the toilet.

Care staff

Staff with a special training and aptitude to provide care.

Call

This term is used as a collective term for all types of calls (bed calls, emergency room calls, WC calls, WC emergency calls, etc.) Colloquially, the term is often used to sum up all call types addressed to care staff. In this context, however, the two terms “service call” and “doctor call” are also used.

Call forwarding

Signalling of calls from other rooms for present staff. If a presence is set in a room, calls relating to the same category will be signalled by devices with call forwarding. Terminals emit an acoustic signal and provide additional information such as the type and location of the call via the display (if available). Pushbuttons with call forwarding only emit an acoustic signal. Calls and service calls are signalled everywhere, where a green or yellow presence is set. Doctors calls on the other hand are only displayed in rooms in which a blue presence is set.

Call button

A call button triggers a call, addressed to the care staff. The button is red with a white nurse symbol. Depending on the location, device and set presence, a room call, an emergency room call, a WC call, a WC emergency call, a bed call or an emergency bed call can be released.

Secocare Assist

Configurable system function designed for making special calls available via the service call button of a patient terminal (PAT or PAT). The function provides both the staff and those requiring assistance with an own set of calls. Individuals requiring care can select from the provided calls without a Mifare card inserted (e.g. toilet assistance, room cleaning,). If a Mifare card is inserted in the device, the staff can chose from a selection of other calls, depending on the stored personnel call profile e.g. bed cleaning, doctor call,). The calls of both sets can be freely defined and are created in accordance with the requirements of the call system operator. The Secocare Assist system functions and the Secocare Data system extension can be used together.

Secocare Data

System extension enabling a simpler care documentation for the staff. Care measures requiring recording can be freely defined and are created according to the requirements of the call system operator (e.g. administration of drugs, temperature measurement, blood pressure measurement, changing of bed linen, positioning of patients,). Inserting a Mifare card in a patient terminal (PAT or PAT-E) will open the corresponding options menu. One or several of the configured care measures can then be selected via the programme selection and volume buttons. Removing the Mifare card from the patient terminal, will cause the data to be forwarded to the Management Center. Collected data can be evaluated via the event database. Optionally, inserting the Mifare card can automatically set a presence, which can be deactivated by removing the card. The Secocare Assist system functions and the Secocare Data system extension can be used together.

SELV

Safety Extra Low Voltage: Special protection is provided by grounded extra-low voltage

Service staff

Staff carrying out more basic activities without care measures.

Service call button

Triggers a service call, addressed to the service staff. The button is grey with a cup symbol. If the Secocare Assist system function is configured, this button can be used to release further calls.

Speech connection

Audio connection between two devices of the call system, established via the call system network.

Status LED

Small LED next to a button, displaying whether the relevant function is active. The LED is generally off and will light up as long as the relevant function is active. The exact LED behaviour depends on the connected button.

System TV

A TV set connected to the call system for showing TV programmes which can be controlled via the patient terminals. Can be provided as bed TV or room TV.

Distributed alarm system

Both interfaces of the system (call system) as well as the alarm transmission are designed to ensure the reliable transmission of alerts. All components involved in alarm transmission and alarm indication are automatically monitored. Malfunctions and errors generate technical alarms and are displayed to the staff.

Distributed information system

Interfaces of the system (call system) and the transmission of information are not designed in terms of a distributed alarm system. The system merely transmits information without monitoring the transmission or display. The transmission of the alarm signals may not be relied on.

Room TV

System TV installed in a room and providing entertainment for several patients. The TV set can be controlled by more than one patient terminal.

Overdoor lights

A device for the optical indication of calls, presences and reminders allocated to a room. It is imperative that the overdoor light is installed in the direct vicinity of all rooms with call options. The lamps must be clearly detectable from a longer distance.

3.2 Answering units

According to VDE 0834-1:2016-06, a answering unit is a *device to indicate and answer calls, to switch them off by means of remote control, and to indicate information on the presence of one or several organisational groups.* For Visocall IP call systems this definition apply to the staff terminal and the control panel.

System connection is implemented as set out for a Staff Terminal to an IP connection module or for a control panel to a backbone switch or at port 8 of a system switch.

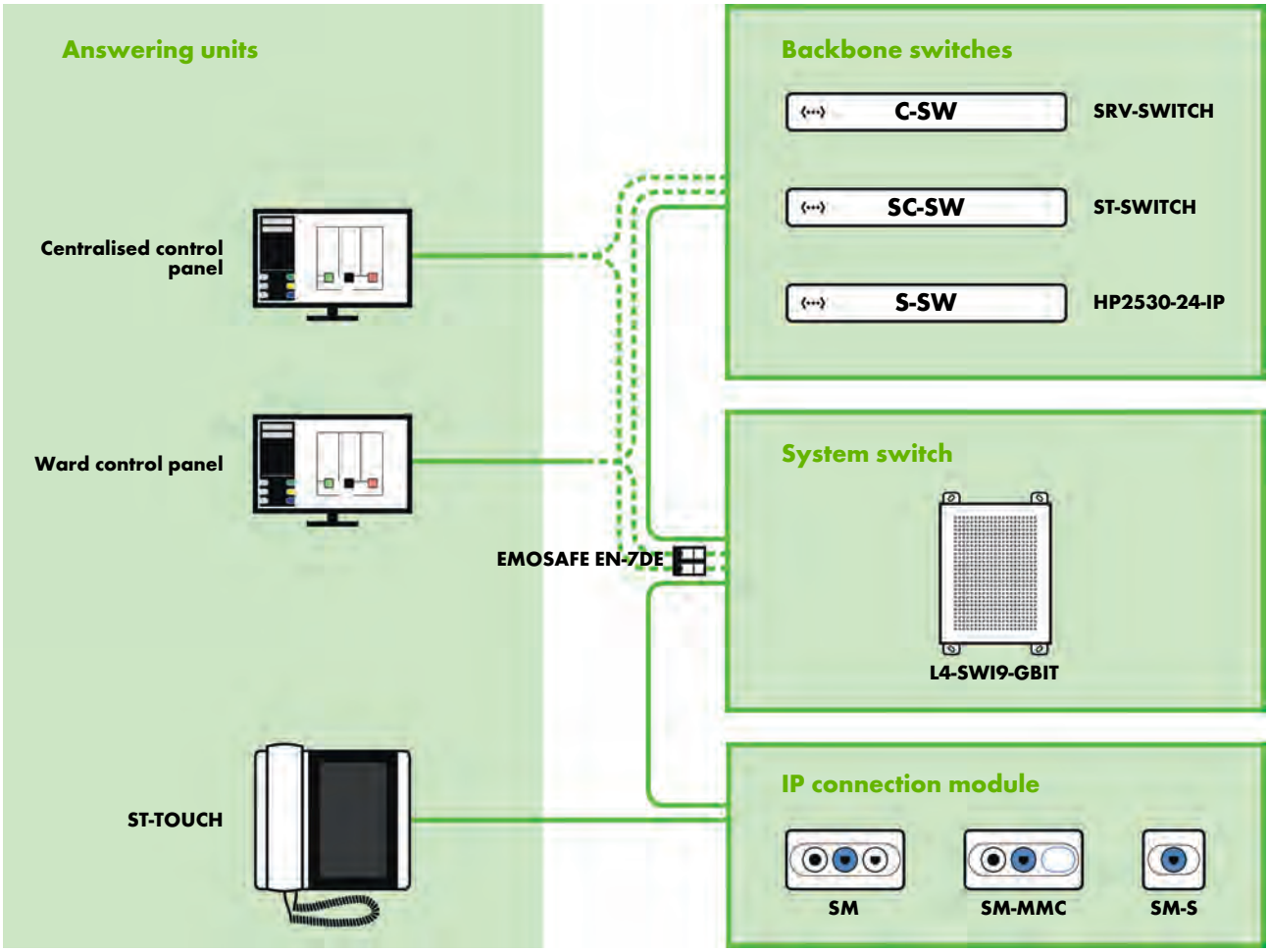


Illustration 1: Connection scheme answering units

Product overview

Features	ST-TOUCH	Centralised control panel	Ward control panel
An overview of all events in a ward	•	•	•
An overview of all events in several wards		•	
Graphic user interface with building layout		•	•
Adjustable layout of the user interface		•	•
Announcements	•	•	•
Establishment of speech connections to other components of the call system	•	•	•
Integrated IP telephone	•		
Radio operation	•		
Call forwarding, call answering, setting reminders	•	•	•
Setting presences, releasing calls	•	•	•
Control of interconnections and centralisation of the ward	•	•	•
Management of care groups and call prioritisation of individual beds	•	•	•

No.: 21-1010500-01

Staff Terminal ST-TOUCH

Answering unit for staff as centralised communication and information terminal of a ward. Speech connections and telephone calls are possible via the integrated hands-free facility or the receiver.

System connection is implemented via an IP connection module with a blue Intellifix socket. A ST-TOUCH-WH wall-mounted bracket is required for mounting the device on the wall.

NOTE

Supported from Application Kit 6

- Call forwarding for set presences
- Answering in case of active call forwarding
- Setting reminders
- Announcements
- Radio function (requires sound interface)
- Integrated loudspeaker and microphone for speech connection
- Two device base positions for adjusting the inclination angle
- Telephone function
- An overview of all events in the ward including:
  - Calls
  - Reminders
  - Presences
  - Faults
  - Interconnections
- 7 inch touch display for:
  - Set presences (green, yellow, blue)
  - Call releasing (emergency call, doctor call, heart alarm etc.)
  - Control interconnections of wards
  - Control centralisation of wards
  - Managing care groups
  - Call prioritisation of individual beds (bed prioritisation)

System compatibility:	Visocall IP
Operating voltage:	17.5 – 30 V DC
Power consumption:	369.6 mA at 8,500 mW typ.
Interfaces/system connection:	1 × blue Intellifix plug for plugging into an IP connection module (LAN interface with PoE)
Display:	Fully graphic LC display (480 × 800 pixels) with backlight
Installation:	Standing or surface mounted
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	189 × 213 × 39 mm (H×W×D) without cable base and receiver
Weight:	1.07 kg

Ward and centralised control panel

No.: 21-1001000-01-01

A control panel is designed for providing a simple and clear computer-assisted visualisation and operation of the entire ward (ward control panel) or several stations up to an entire call system (centralised control panel), depending on licence and configuration.

The graphic interface offers clear ward layouts, interactive room buttons, event lists and context-related control buttons. This enables a clear overview of the current events in the relevant ward at any time.

The computer can also be used for using additional software applications of the call system (e.g. for CareCardAdmin for managing RFID smartcards).

The software for the centralised control panel is installed on a computer connected to the network of the call system. System connection is implemented via a backbone switch or port 8 of a switch system.

No.: 21-1001001-01-01

- Call forwarding for set presences
- Answering in case of active call forwarding
- Setting reminders
- Announcements
- Speech connections with loudspeaker and microphone
- The graphic user interface offers clear ward layouts and ward areas as an option
- Adjustable layout of the graphic user interface
- An overview of all events in the ward(s)
  - Calls
  - Reminders
  - Presences
  - Faults
  - Interconnections
- Graphic user interface for:
  - Set presences (green, yellow, blue)
  - Call releasing (emergency call, doctor call, heart alarm etc.)
  - Control interconnections of wards
  - Control centralisation of wards
  - Managing care groups
  - Call prioritisation of individual beds (bed prioritisation)

Operating system:	Windows 7 (32/64 bit) or Windows 10 (32/64 bit)
Processor or SoC:	min. 1 GHz
RAM:	min. 1 GB (32 bit) or min. 2 GB (64 bit)
Hard disk space:	min. 16 GB (32 bit) or min. 20 GB (64 bit)
Graphics card:	DirektX 9 or higher, 1.0 driver
Display:	min. screen resolution 1024 × 768 pixel
Peripheral:	keypad and mouse (also for systems with a touch display for configuration purposes)

No.: 21-1000500-01

Network isolator EMOSAFE EN-70E

Coupling for the safe isolation (2 × MOPP according to DIN EN 60601-1) of a control panel or an external device from the rest of the call system (accordance with VDE 0834).

- Safe isolation 2 × MOPP in accordance with DIN EN 60601-1
- Can be used in PoE networks (no PoE power supply after the network isolator)
- Small size and easy installation

Required between:

- System switch port 8 and control panel
- System switch port 8 and external device
- Multimedia socket of a connection module (SM, SM-MMC) and external device

System compatibility:	Visocall IP
Interfaces/system connection:	2 × RJ-45 sockets for connection to a system switch (port 8) or a backbone switch
Protection class:	IP 40
Ambient temperature:	-10 °C to +70 °C
Relative air humidity:	up to 90 % without condensation
Case:	Plastic, white/grey
Dimensions:	17.5 × 42 × 17 mm (H×W×D) without cable base and receiver
Weight:	12 g

Answering units and accessories

	Label	Type	Article no.
	**Staff terminal**	ST-TOUCH	21-1010500-01
	**Wall-mounted bracket for Staff Terminal**	ST-TOUCH-WH	FC010003
	**Software licence telephone book function** for Staff Terminal	SWP-IP/PBF	FC010064
	**Receiver for Staff Terminal (replacement)** including connection cables	ST-TOUCH-HK	21-1002050-01
	**Base for staff terminal (replacement)**	ST-TOUCH-STF	21-1002051-01
	Connection cable for Staff Terminal Cable lengths 2.8 m	ST-TOUCH-AK	FC81818
	**Control panel PC touch** Hardware for operating a control panel, incl. operating system, without control panel SW licence	LS-TOUCH	21-1001000-01
	**Control panel PC** Hardware for operating a control panel, incl. operating system, without control panel SW licence	LS	21-1001001-01
	**Licence for the operation of a control panel** Software licence ward control panel	SWP-IP/SLS	FC008050
	**Licence for the operation of a control panel** Software licence ward control panel extension	SWP-IP/SLS-E	FC008052
	**Licence for the operation of a control panel** Software licence centralised control panel	SWP-IP/ZLS	FC010053
	**Licence for the operation of a control panel** Software licence centralised control panel extension	SWP-IP/ZLS-E	FC010054
	**Null modem cable** with two D-SUB DE9 connector plugs for the connection of two control panels via RS-232, cable lengths 2 m	DB9-2M	21-9031000-01
	**Null modem cable** with two D-SUB DE9 connector plugs for the connection of two control panels via RS-232, cable lengths 3 m	DB9-3M	21-9031001-01

	Label	Type	Article no.
	**Network isolator EMOSAFE**	EMOSAFE EN-70E	21-1000500-01
	**VOIP receiver** for speech functions and announcements	VOIP-H	FC010071
	**Microphone USB** for Announcements and calls	MIC-USB	FC010074
	**Mifare Reader USB** for reading Mifare cards	MFR-3700	FC017330
	**Mifare card**	MFC4C-CD	21-1002500-01

3.3 Patient handsets

Patient handsets are designed to release patient calls. They are designed as handy handheld devices for use from patient beds. The devices can be changed any time by simply plugging them in and out. In accordance with VDE 0834, this will generate a disconnection call in the system. All patient handsets are equipped with locating or reassurance lights and are therefore suited for use in the dark.

CAUTION
Do not attach to rising aids

Devices and their cables may not be wound around or attached to rising aids, as the device may be damaged if the patients use the device to pull themselves up. The devices may also be damage when falling off due to inappropriate mounting.

The relevant accessories must be used for attaching patient handsets to the bed.

Patient handsets can be broken down into two groups according to their range of functions:

- **Pear pushbuttons** are very easy to use and enable patients to call care staff and control light sources connected to the system.
- **Patient handsets** are additionally equipped with a display and expendable functions including a speech connection option between staff and Patient handsets.

System connection is implemented as outlined via the relevant Intellifix socket of a connection module. This specially designed plug and socket connection with auto disconnect mechanism minimises damage to cables, plugs and sockets. The PAT, PAT-E, PAT-L and BT-IP devices are connected to the blue Intellifix sockets. The pear pushbutton BT-B is connected to red Intellifix sockets.

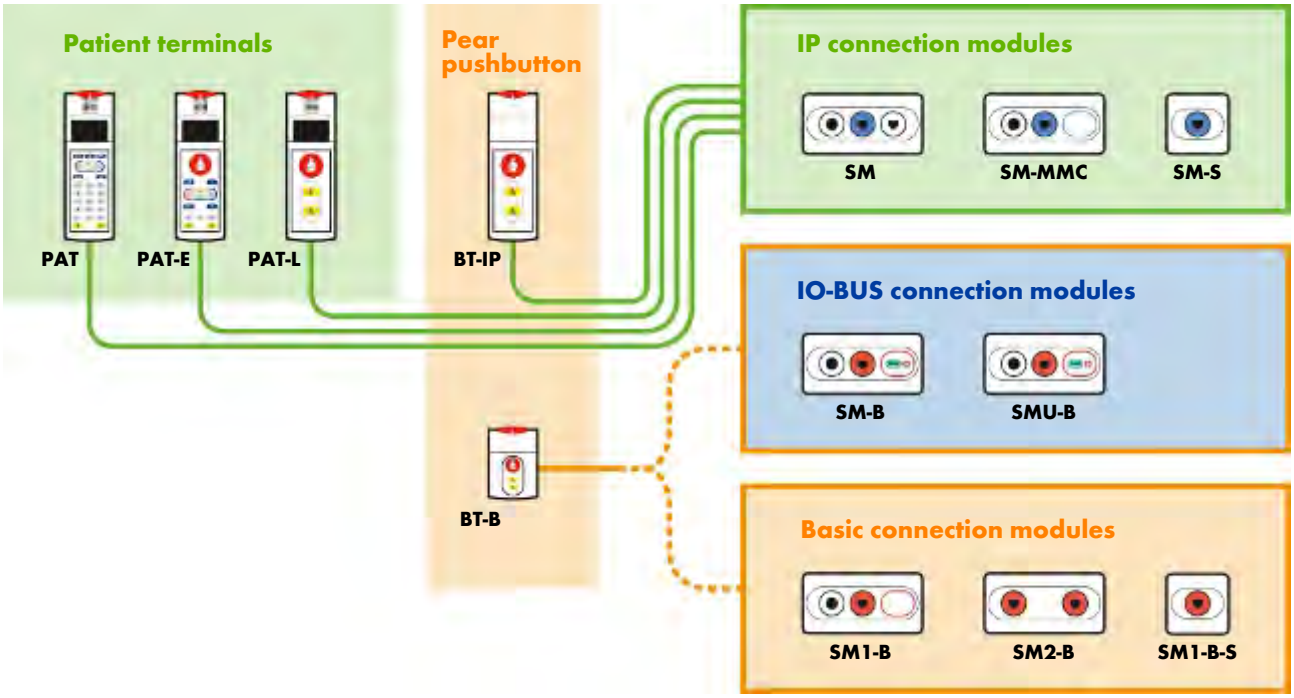


Illustration 2: Connection scheme patient handsets

Product overview

Features	PAT	PAT-E	PAT-L	BT-IP	BT-B
Call button (red) with locating and reassurance light	•	•	•	•	•
Room and reading light control (optional KNX)	•	•	•	•	•
Case and keypad in germ inhibiting design	•	•	•	•	•
Intellifix self-ejecting plugs	•	•	•	•	•
Call function with communication option	•	•	•		
LC display with position alignment	•	•	•		
Headphones socket	•	•			
Service call with speech option	•	•			
Radio operation	•	•			
Channel selection and volume control for system TV	•	•			
Integrated IP telephone	•	*			
Secocare Data	•	•			
Secocare Assist	•	•			
Control system for the blinds	•	•			
IR reception for integration of home automation devices	•	•			
Automatic volume level	•	•			
Menu-driven operation	•	•			
Numerical keypad	•				
Connection to IP connection modules	•	•	•	•	
Connection to IO-BUS connection modules or basic connection modules					•

* Limited to the acceptance of incoming telephone calls.

Patient terminal PAT

No.: 21-1011000-01

No.: FC010240

No.: 21-1002005-01

Patient handset for call releasing, light, TV and blind control, playing radio programmes and speech communication. The device is operated via a keypad and the call button is equipped with a locating and reassurance light.

System connection is implemented via an IP connection module with a blue Intellifix socket. The relevant accessories must be used for attaching the device to the bed.

- Call button in redundant execution with mechanical trigger and light sensor
- Service call button, function optionally expendable with Secocare Assist
- Holding device and antenna for reading RFID chip cards
- Care documentation via Secocare Data
- Integrated loudspeaker and microphone for speech connections
- Automatic volume adjustment when left to hang
- Telephone function
- Radio function (requires sound interface)
- Integrated headphones socket
- Infrared receiver for environmental control devices
- Integrated LC display with position alignment
- Germ inhibiting membrane keypad for controlling two independent light sources, electric blinds and a system TV.

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	71 mA at 1,700 mW typ.
Interfaces:	
System connection:	1 × blue Intellifix plug for plugging into an IP connection module (LAN interface with PoE)
RFID:	RF communication in accordance with ISO/IEC 14443 Type A for MIFARE cards (Ultralight, Classic, Plus and DESFire EV1)
Headphones socket:	3.5 mm jack plug
Infrared receiver:	36 kHz receiver for RC5 signals
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Protection class:	IP 54, VDE 0834 Environmental class III
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 100 % without condensation
Cable:	2.8 m with 200 N strain relief (relating to the device)
Case:	Plastic ASA, white RAL 9016
Dimensions:	205 × 66 × 27 mm (H×W×D)
Weight:	311 g

Patient terminal Easy PAT-E

No.: 21-1011002-01

Patient handset for call releasing, light, TV and blind control, playing radio programmes and speech communication. The device is operated via a keypad and the call button is equipped with a locating and reassurance light.

System connection is implemented via an IP connection module with a blue Intellifix socket. The relevant accessories must be used for attaching the device to the bed.

- Two call buttons with mechanical trigger
- Service call button, function optionally expendable with Secocare Assist
- Holding device and antenna for reading RFID chip cards
- Care documentation via Secocare Data
- Integrated loudspeaker and microphone for speech connections
- Automatic volume adjustment when left to hang
- Telephone function for receiving telephone calls
- Radio function (requires sound interface)
- Integrated headphones socket
- Infrared receiver for environmental control devices
- Integrated LC display with position alignment
- Germ inhibiting membrane keypad for controlling two independent light sources, electric blinds and a system TV.

No.: FC010240

No.: 21-1002005-01

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	71 mA at 1,700 mW typ.
Interfaces:	
System connection:	1 × blue Intellifix plug for plugging into an IP connection module (LAN interface with PoE)
RFID:	RF communication in accordance with ISO/IEC 14443 Type A for MIFARE cards (Ultralight, Classic, Plus and DESFire EV1)
Headphones socket:	3.5 mm jack plug
Infrared receiver:	36 kHz receiver for RC5 signals
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Protection class:	IP 54, VDE 0834 Environmental class III
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 100 % without condensation
Cable:	2.8 m with 200 N strain relief (relating to the device)
Case:	Plastic ASA, white RAL 9016
Dimensions:	205 × 66 × 27 mm (H×W×D)
Weight:	311 g

Patient terminal Light PAT-L

No.: 21-1011003-01

Patient handset for call releasing, light control and speech communication. The device is operated via a keypad; the call buttons are equipped with a locating and reassurance light.

System connection is implemented via an IP connection module with a blue Intellifix socket. The relevant accessories must be used for attaching the device to the bed.

- Two call buttons with mechanical trigger
- Integrated loudspeaker and microphone for speech connections
- Integrated LC display with position alignment
- Germ inhibiting membrane keypad for controlling two independent light sources

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	71 mA at 1,700 mW typ.
Interfaces/system connection:	1 × blue Intellifix plug for plugging into an IP connection module (LAN interface with PoE)
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Protection class:	IP 54, VDE 0834 Environmental class III
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 100 % without condensation
Cable:	2.8 m with 200 N strain relief (relating to the device)
Case:	Plastic ASA, white RAL 9016
Dimensions:	205 × 66 × 27 mm (H×W×D)
Weight:	311 g

No.: FC010240

No.: 21-1002005-01

Pear pushbutton BT-IP

No.: 21-1011004-01

Patient handset for call releasing and light control. The device is operated via a keypad; the call buttons are equipped with a locating and reassurance light.

System connection is implemented via an IP connection module with a blue Intellifix socket. The relevant accessories must be used for attaching the device to the bed.

- Two call buttons with mechanical trigger
- Germ inhibiting membrane keypad for controlling two independent light sources

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	71 mA at 1,700 mW typ.
Interfaces/system connection:	1 × blue Intellifix plug for plugging into an IP connection module (LAN interface with PoE)
Protection class:	IP 54, VDE 0834 Environmental class III
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 100 % without condensation
Cable:	2.8 m with 200 N strain relief (relating to the device)
Case:	Plastic ASA, white RAL 9016
Dimensions:	205 × 66 × 27 mm (H×W×D)
Weight:	290 g

No.: FC010240

No.: 21-1002005-01

Pear pushbutton BT-B

No.: FC010240

No.: 21-1031000-01

Patient handset for call releasing and light control. The device is operated via a keypad; the call buttons are equipped with a locating and reassurance light.

System connection is implemented via an IO-BUS connection module or a basic connection module with a red Intellifix socket. The relevant accessories must be used for attaching the device to the bed.

- Two call buttons with mechanical trigger
- Germ inhibiting membrane keypad for controlling two independent light sources

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	5.8 mA at 110.2 mW typ.
Interfaces/system connection:	1 × red Intellifix plug for plugging into an IO-BUS connection module (basic interface with power supply)
Protection class:	IP 54, VDE 0834 Environmental class III
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 100 % without condensation
Cable:	2.8 m with 200 N strain relief (relating to the device)
Case:	Plastic ASA, white RAL 9016
Dimensions:	97 × 66 × 27 mm (H×W×D)
Weight:	194 g

Cradle K-PAT

No.: FC010240

Cradle for the upright storage of a patient terminal or pear pushbutton. The integrated magnet turns up the volume of the connected patient handset. Two countersunk head screws (Ø 4 mm) are needed to attach the device. The aluminium base for PAT cradles can be used for mounting the device on a standard rail.

System compatibility:	Visocall IP
Case:	Plastic ASA, white RAL 9016
Dimensions:	67 × 70 × 32 mm (H×W×D)
Weight:	22 g

Aluminium base K-PAT-AS

No.: 21-1002200-01

Mounting base for attaching a K-PAT cradle to a standard rail. The aluminium base plus the locking screw and two screw for attaching the cradle are supplied as standard.

System compatibility:	Visocall IP
Case:	Aluminium
Dimensions:	59 × 35 × 26 mm (H×W×D) (without locking screw)
Weight:	122 g

Holding clip HB-PAT

No.: 21-1002005-01

Holding clip for attaching a patient terminal or a BT-IP pear pushbutton to the side rail of a bed. The flat end of the clip is slid into the recess on the rear of the patient handset. The bent end of the holder is then attached to the bed.

> **NOTE**
>
> The HB-PAT holding clip is insert into the rear card slot on the patient handset; this means that the RFID function cannot be used in combination with this accessory.

System compatibility:	Visocall IP
Case:	Plastic ASA, white RAL 9016
Dimensions:	85 × 60 × 48 mm (H×W×D)
Weight:	26 g

Patient handsets and accessories

	Label	Type	Article no.
	**Patient terminal** incl. 2.8 m connection cable	PAT	21-1011000-01
	**Patient terminal** incl. 5 m connection cable	PAT-500	21-1011000-02
	**Patient terminal** incl. 35 cm connection cable	PAT-035	21-1011000-03
	**Patient terminal** with 106 cm connection cable and RJ-45 connector plug	PAT-RJ45-106	21-1011000-04
	**Patient terminal Easy** incl. 2.8 m connection cable	PAT-E	21-1011002-01
	**Patient terminal Easy** incl. 5 m connection cable	PAT-E-500	21-1011002-02
	**Patient terminal Easy** with 106 cm connection cable with RJ-45 connector plug	PAT-E-RJ45-106	21-1011002-03
	**Patient terminal Light** incl. 2.8 m connection cable	PAT-L	21-1011003-01
	**Patient terminal Light** incl. 5 m connection cable	PAT-L-500	21-1011003-02
	**Pear pushbutton** incl. 2.8 m connection cable	BT-IP	21-1011004-01
	**Pear pushbutton Basic**	BT-B	21-1031000-01
	**Cradle K-PAT**	K-PAT	FC010240
	**Aluminium base for cradle K-PAT**	K-PAT-AS	21-1002200-01
	**Gooseneck** For mounting a K-PAT cradle to a standard rail	SH-GTS	ZZL10737

	Label	Type	Article no.
	**Holding clip for PAT** For attaching a patient terminal or a BT-IP pear pushbutton to the side rail of a bed	HB-PAT	21-1002005-01
	**Holding clip for PAT** For attaching a device cable to a cable	HC-PAT	21-1002006-01
	**Mounting bracket** For attaching a device cable to a cable	HKL VCP	FC006209
	**Mounting clip** For attaching a device cable to a rising aid	HL27-VC	FC12803--A
	**Mounting clip** For attaching a device cable to a rising aid	HL38-VC	FC12803--B
	**Holding clip** For attaching a device cable to a bed sheet	HC-VC	FC12804
	Holding clip for connection cable For attaching several device cables to the bed frame	HB-VC	FC12805
	**Headphones with headband** Cable lengths 2 m	KH	FC005205
	Connection cables PAT blue (replacement) Cable lengths 2.8 m	AK-PAT-BL-280	EI931506-C
	Connection cables PAT blue (replacement) Cable lengths 5 m	AK-PAT-BL-500	EI931606-C500
	Connection cables PAT blue (replacement) Cable lengths 35 cm	AK-PAT-BL-35	EI931506-C035
	Connection cables PAT blue (replacement) Cable lengths 50 cm	AK-PAT-BL-50	EI931506-C050
	Connection cables BT-B red (replacement) Cable lengths 2.8 m	AK-BT-B	EI931573-A
	Connection cables BT-B red (replacement) Cable lengths 35 cm	AK-BT-B	EI931573-A035
	Connection cables BT-B red (replacement) Cable lengths 50 cm	AK-BT-B	EI931573-A050
	Connection cables BT-B red (replacement) Cable lengths 3.5 m	AK5-BT-B	EI931573-A350

	Label	Type	Article no.
	Connection cables BT-B red (replacement) Cable lengths 5 m	AK5-BT-B	EI931573-A500
	PAT spiral connection cable (replacement) with 33 cm connection cable and RJ-45 connector plug	AK-PAT-BL-SPIRALE	21-1011250-01
	**Software licence Secocare data**	SWP-IP/CD	FC010066
	**Software licence Secocare data extension**	SWP-IP/CD-E	FC010067
	**Mifare card**	MFC4C-CD	21-1002500-01

3.4 Connection modules

Connection modules with sockets act as the connecting piece between the hard-wired and exchangeable system components. This way, patient handsets, ward answering units, diagnostic devices, radio receivers, etc. can be connected or disconnected by the staff while the system is running.

Individual connection modules offer features such as a multimedia socket, a call and cancel pushbutton or a basic interface for connecting basic components including connection devices, pushbuttons or the light module LM-B.

Connection modules can be broken down into two groups depending on their use:

- **Connection modules** are equipped with one or two Intellifix sockets for connecting patient handsets. The specially designed plug and socket connection with auto disconnect mechanism minimises damage to the socket as well as to the connected connector plug and cable.

  Some connection modules are equipped with a diagnostic socket for connection to additional instruments, diagnostic devices, for instance. Connection modules can be broken down according to their type of system connection, i.e. in IP, IO-BUS and basic connection modules.
- **Diagnostic modules** are equipped with one to four diagnostic sockets for connecting instruments such as diagnostic devices, contact mats, noise monitors, etc. to the system either via cable or a radio receiver.

System connection is implemented as outlined via an IP port, an IO-BUS or a basic interface, depending on the connection module.

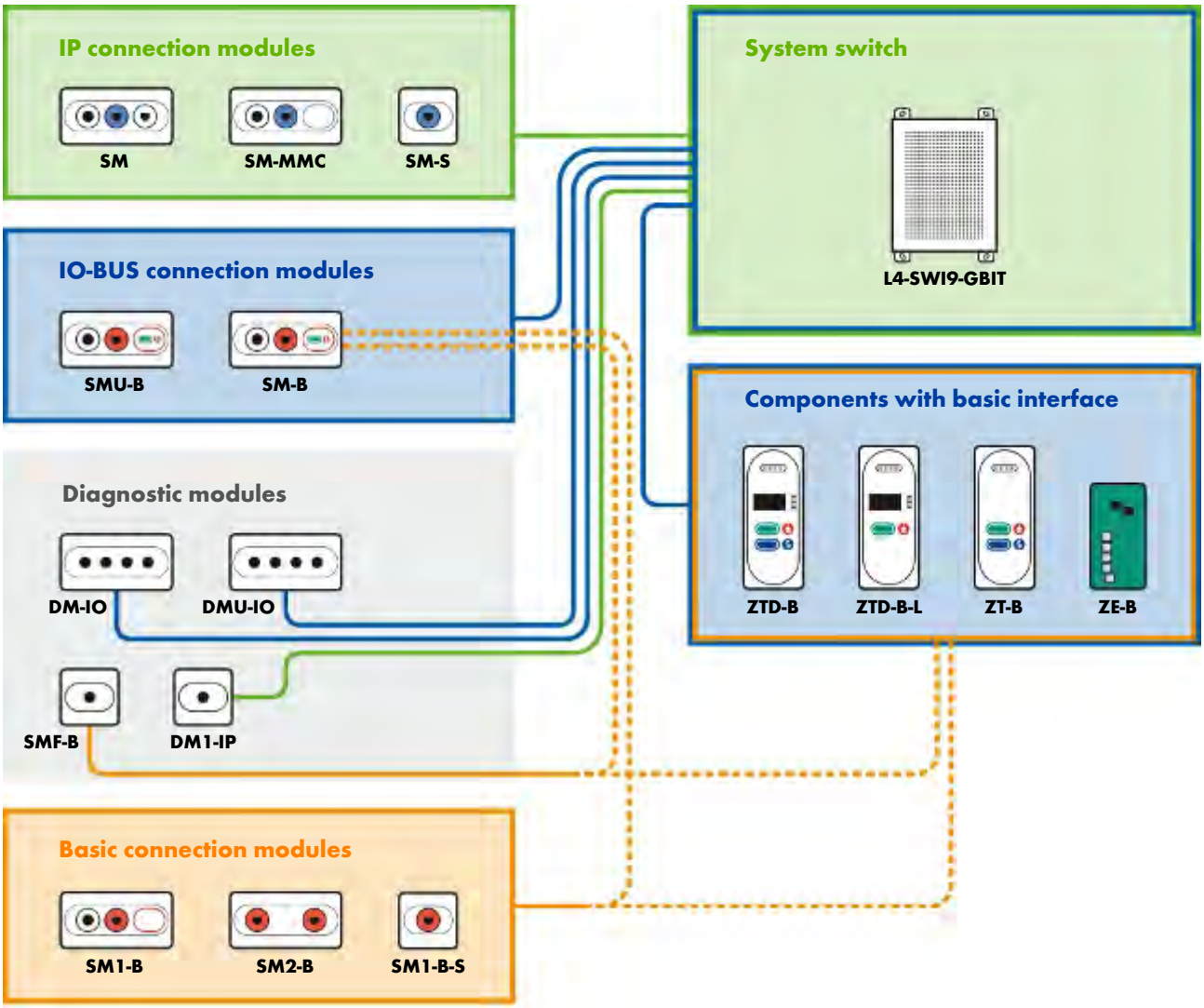


Illustration 3: Connection scheme connection modules

Product overview

Features	SM	SM-MMC	SM-S	SM-B	SMU-B	SM1-B	SM2-B	SM1-B-S	DM-IO	DMU-IO	DM1-IP	SMF-B
Diagnostic socket, not powered				•					••••			
Diagnostic socket, powered	•	•			•	•				••••	•	
Socket, only for radio receivers												•
Fully compatible with radio receiver VR6-5 DIN-NT	•	•		•	•	•			•	•	•	•
Fully compatible with radio receiver VR6-5	•	•			•					•	•	•
Blue Intellifix socket for IP peripherals	•	•	•									
Red Intellifix socket for BT-B				•	•	•	••	•				
Multimedia socket	•	•										
Call and acknowledgement button				•	•							
Connection to basic devices				••••								
Separate power supply					•					•		•
Connection to SWI9 IP port	•	•	•								•	
Connection to SWI9 IO-BUS				•	•				•	•		
Connection to basic interface						•	•	•				•

No.: 21-1011500-01

Connection module SM

Connection module with powered diagnostic socket, blue Intellifix socket and multimedia socket. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Diagnostic adapter for contact mats, noise monitors, etc.
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Blue Intellifix socket for the optional connection of a
  - Patient terminals
  - Pear pushbutton BT-IP
  - Staff terminals
- Front multimedia socket for network connections to a multimedia terminal; This must provide a safe isolation in accordance with DIN EN 60601-1 (2 × MOPP).
- Automatic input monitoring of the diagnostic socket and the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Diagnostic socket:	1 × 5-pin powered DIN socket
Blue Intellifix socket:	1 × RJ-45 socket with release mechanism (LAN interface with PoE)
Multimedia socket:	1 × RJ-45 socket (only active when patient handset is connected)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 43 mm (H×W×D)
Weight:	105 g

Connection module SM-MMC

No.: 21-1011501-01

Connection module with powered diagnostic socket, blue Intellifix socket and multimedia socket. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Diagnostic adapter for contact mats, noise monitors, etc.
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Blue Intellifix socket for the optional connection of a
  - Patient terminals
  - Pear pushbutton BT-IP
  - Staff terminals
- Rear basic interface for the connection of
  - basic connection modules
  - basic pushbuttons
  - Light modules LM-B
  - connection modules radio SMF-B
- Automatic input monitoring of the diagnostic socket and the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Diagnostic socket:	1 × 5-pin powered DIN socket
Blue Intellifix socket:	1 × RJ-45 socket with release mechanism (LAN interface with PoE)
Multimedia socket:	1 × RJ-45 socket (only active when patient handset is connected)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 43 mm (H×W×D)
Weight:	105 g

No.: 21-1011502-01

Connection module SM-S

Connection module with blue Intellifix socket for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a H1 cavity wall switchbox installed in the wall must be provided for. Generally installed in duty rooms as connection module for a staff terminal.

NOTE

The connection module does not fit into the countersunk switchbox U1.

- Blue Intellifix socket for the optional connection of a
  - Patient terminals
  - Pear pushbutton BT-IP
  - Staff terminals
- Automatic input monitoring of the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	Insulation-displacement connector for connection to the IP port of a SWI9 (LAN interface with PoE)
Blue Intellifix socket:	1 × RJ-45 socket with release mechanism (LAN interface with PoE)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95% without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 83 × 38 mm (H×W×D)
Weight:	57 g

Connection module SM-B

No.: 21-1021500-01

Connection module with diagnostic socket, red Intellifix socket, call and cancel button and four ports for basic components. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Radio receiver VR6-5 DIN-NT (with power supply)
- Red Intellifix socket for connecting a BT-IP pear pushbutton
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light
- Rear basic interface for the connection of
  - basic connection modules
  - basic pushbuttons
  - Light modules LM-B
  - connection modules radio SMF-B
- Automatic input monitoring of the diagnostic socket and the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS485 interface with power supply)
Diagnostic socket:	1 × 5-pin DIN socket without power supply
Red Intellifix socket:	1 × RJ-45 socket with release mechanism (basic interface with power supply)
Basic interface:	4 × RJ-12 sockets with power supply
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 43 mm (H×W×D)
Weight:	124 g

No.: 21-1021501-01

Connection module SMU-B

Connection module with powered diagnostic socket, red Intellifix socket and call and cancel button. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Diagnostic adapter for contact mats, noise monitors, etc.
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Red Intellifix socket for connecting a BT-IP pear pushbutton
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light
- Automatic input monitoring of the diagnostic socket and the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
24 V DC input:	1 × rear screw-type terminal for supplying the diagnostic socket with power
Diagnostic socket:	1 × 5-pin powered DIN socket
Red Intellifix socket:	1 × RJ-45 socket with release mechanism (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 43 mm (H×W×D)
Weight:	120 g

Connection module SM1-B

No.: 21-1031500-01

Connection module with powered diagnostic socket and red Intellifix socket. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Radio receiver VR6-5 DIN-NT (with power supply)
- Red Intellifix socket for connecting a BT-IP pear pushbutton
- Automatic input monitoring of the diagnostic socket and the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-12 sockets for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B
Diagnostic socket:	1 × 5-pin powered DIN socket
Red Intellifix socket:	1 × RJ-45 socket with release mechanism (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 43 mm (H×W×D)
Weight:	100 g

No.: 21-1031502-01

Connection module SM2-B

Connection module with two red Intellifix sockets for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Red Intellifix sockets for connecting two BT-IP pear pushbuttons
- Automatic input monitoring of the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-12 sockets for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (with power supply)
Red Intellifix socket:	2 × RJ-45 sockets with release mechanism (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 41 mm (H×W×D)
Weight:	97 g

Connection module SM1-B-S

No.: 21-1031501-01

Connection module with red Intellifix socket for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a H1 cavity wall switchbox installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

NOTE

The connection module does not fit into the countersunk switchbox U1.

- Red Intellifix socket for connecting a BT-IP pear pushbutton
- Automatic input monitoring of the Intellifix socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (with power supply)
Red Intellifix socket:	1 × RJ-45 socket with release mechanism (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 83 × 42 mm (H×W×D)
Weight:	52 g

No.: 21-1021800-01

Diagnostic module DM-IO

Connection module with four diagnostic sockets for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Radio receiver VR6-5 DIN-NT (with power supply)
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Diagnostic socket:	4 × 5-pin DIN sockets without power supply
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 38 mm (H×W×D)
Weight:	157 g

Diagnostic module DMU-IO

No.: 21-1021801-01

Connection module with four powered diagnostic sockets for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Diagnostic adapter for contact mats, noise monitors, etc.
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
24 V DC input:	1 × rear screw-type terminal for supplying the diagnostic socket with power
Diagnostic socket:	4 × 5-pin powered DIN sockets
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 38 mm (H×W×D)
Weight:	165 g

No.: 21-1011800-01

Diagnostic module DM1-IP

Room-based connection module with powered diagnostic socket for installation in a media duct or for wall-mounting.

For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
  - Diagnostic adapter for contact mats, noise monitors, etc.
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Diagnostic socket:	1 × 5-pin powered DIN socket
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 83 × 36 mm (H×W×D)
Weight:	69 g

Connection module radio components SMF-B

No.: 21-1031800-01

Connection module with powered socket for the connection of a radio receiver. Suitable for installation in the media duct or for wall mounting.

For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, near the bed in the vicinity of the headboard.

- Diagnostic socket for the optional connection of a
  - Radio receiver VR6-5 DIN-NT (with power supply)
  - Radio receiver VR6-5 (without power supply)
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B
24 V DC input:	1 × rear screw-type terminal for supplying the diagnostic socket with power
Diagnostic socket:	1 × 5-pin powered DIN socket
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 83 × 29 mm (H×W×D)
Weight:	73 g

No.: 21-1002000-01

Diagnostic adapter AD-DIA

Accessories for the connection of a non-system, call-releasing device to a diagnostic socket. The diagnostic adapter provides for a galvanic isolation between the connected device and the call system.

- Galvanic isolation between the connected device (contact mat, noise monitor, breathing sensor, etc.) and the call system
- Internal DIP switch for configuration of the call releasing in case of NO or NC contact
- Internal terminal resistance, removable, for circuit monitoring with external 475 Ohm parallel to switching contact
- Diagnostic call when releasing the external device
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	4 mA at 76 mW typ.
Interfaces:	
System connection:	1 × 5-pin DIN connector plug for the connection of a live diagnostic socket of a SM, SM-MMC, SMU-B, SM1-B, DMU-IO or DM1-IP
Device connection:	1 × 2-wire cable with open ends for the connection of a non-system device such as a contact mat, noise monitor, breathing sensor, etc.
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Plug sheath:	Plastic, black
Connection cables:	approx. 2.5 m with open cable ends
Case:	Plastic ABS, white RAL 9016
Dimensions:	41 × 99 × 25 mm (H×W×D)
Weight:	114 g

Diagnostic connection cable DSTK-W-VCIP

No.: FC010350

Accessories for the connection of a diagnostic device to a diagnostic socket. The diagnostic device must provide a safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)

- Connecting a diagnostic device with safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
- With circuit diagram and resistance for circuit monitoring
- Diagnostic call when releasing the external device
- Automatic input monitoring of the diagnostic socket with automatic call releasing (disconnection call)

System compatibility:	Visocall IP
Interfaces:	
System connection:	1 × 5-pin DIN connector plug for the connection of a live diagnostic socket of a SM, SM-MMC, SMU-B, SM1-B, DMU-IO or DM1-IP
Device connection:	1 × 2-wire cable with open ends for the connection of a diagnostic device, providing for a safe isolation in accordance with DIN EN 60601-1 (2 × MOPP)
Ambient temperature:	up to +60 °C
Plug sheath:	metal
Cable mantle:	PVC, white
Branch Manager:	2 × 0.75 mm², fine-wire, flexible
Cable length:	approx. 2.5 m
Weight:	123 g

Connection modules and accessories

	Label	Type	Article no.
	**Connection module SM**	SM	21-1011500-01
	**Connection module SM-MMC**	SM-MMC	21-1011501-01
	**Connection module single SM**	SM-S	21-1011502-01
	**Connection module SM-B**	SM-B	21-1021500-01
	**Connection module SMU-B**	SMU-B	21-1021501-01
	**Connection module SM1-B**	SM1-B	21-1031500-01
	**Connection module SM2-B**	SM2-B	21-1031502-01
	**Connection module SM1-B-S**	SM1-B-S	21-1031501-01
	**Diagnostic module DM-IO**	DM-IO	21-1021800-01
	**Diagnostic module DMU-IO**	DMU-IO	21-1021801-01
	**Diagnostic module DM1-IP**	DM1-IP	21-1011800-01
	**Connection module radio components SMF-B**	SMF-B	21-1031800-01
	Blind cover, connection module, 10 pcs. For multimedia and diagnostic sockets, not suited for Intellifix sockets!	BLA-SM	FC010295
	**Diagnostic adapter AD-DIA**	AD-DIA	21-1002000-01

	Label	Type	Article no.
	**Diagnostic connection cable**	DSTK-W-VCIP	FC010350
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**AP case AP-2**	APA-2	FC008992
	**Countersunk switchbox**	U1	FC88010
	**Cavity wall switchbox**	H1	21-2400000-01
	**AP case AP-1**	APA-1	FC008991

3.5 Terminals

Terminals are designed for use by the staff. They are installed in the entrance area of rooms so that presences can be set when entering the room and deactivated when leaving the room. They are designed for releasing and cancelling calls and optionally also for the acoustic signalling of call forwarding.

- **Communications terminals** are equipped with presence buttons, a call button or optionally a doctor call button, an integrated loudspeaker and a microphone for speech communication and a display.
- **Room terminals** are equipped with presence buttons, a call button or optionally a doctor call button as well as a sound generator for the acoustic signalling in From of call forwarding. Depending on the model, the device may also be equipped with a display. Contrary to communications terminals, they provide for ports for basic components, which however cannot be used for speech communication.
- **RFID terminals** enable a contactless presence management with the use of Mifare cards. Personalised presences make is possible to simultaneously set several presences of the same category in a room.

System connection is implemented as outlined via an IP port or IO-BUS, depending on the terminal.

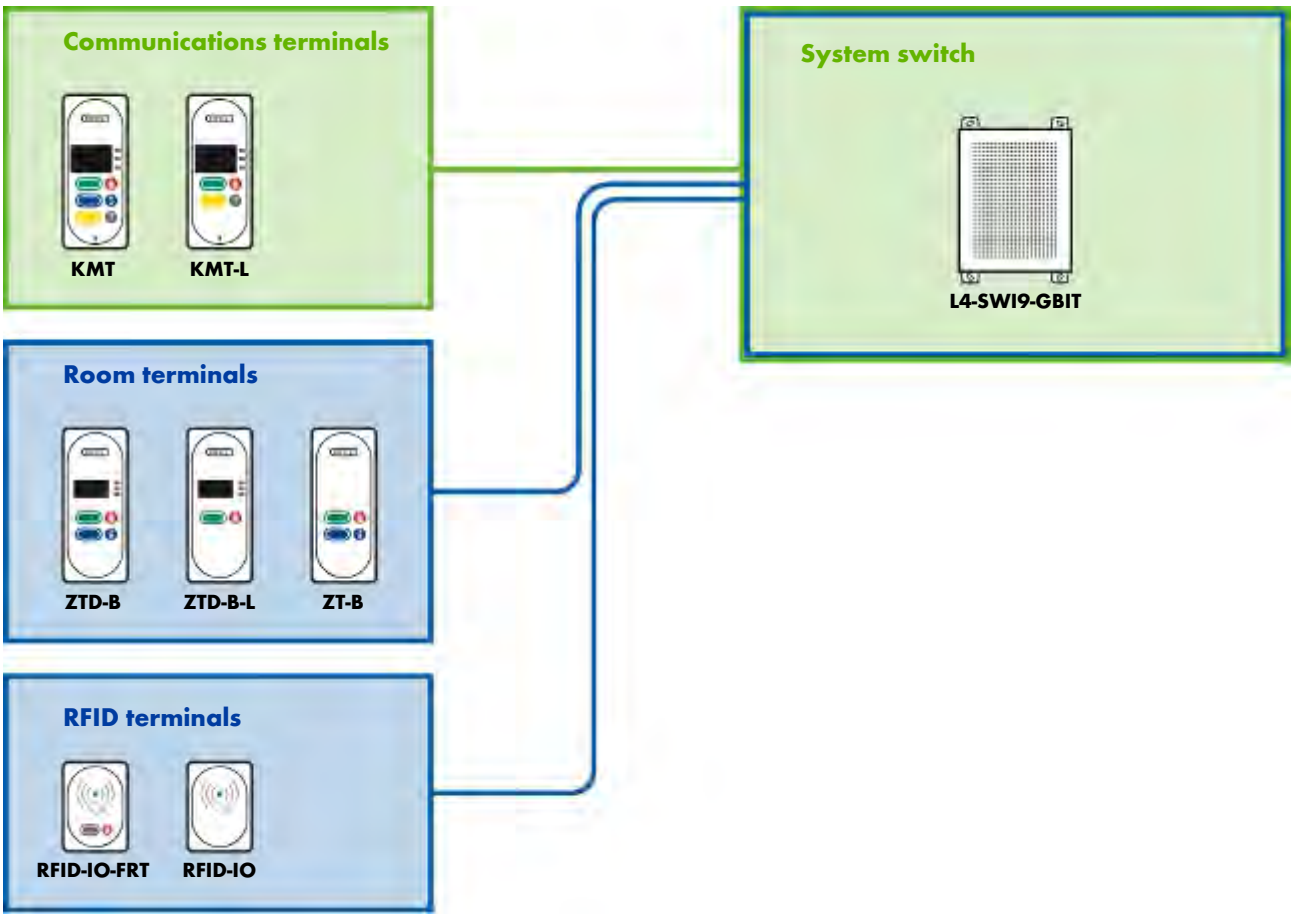


Illustration 4: Connection scheme terminals

Product overview

Features	KMT	KMT-L	ZTD-B	ZTD-B-L	ZT-B	RFID-IO-FRT	RFID-IO
Green presence button	•	•	•	•	•		
Blue presence button	•		•		•		
Yellow presence button	•	•					
Presences via RFID card						•	•
Call button	•	•	•	•	•	•	
Doctor call button	•		•		•		
Configurable special call						•	
Call forwarding	•	•	•	•	•	•	•
Call answering	•	•					
Setting reminders	•	•					
Announcements	•	•					
Display	•	•	•	•			
Timer function	•	•					
Radio operation	•	•					
Connection to basic devices			•••••	•••••	•••••		
Connection to SWI9 IP port	•	•					
Connection to SWI9 IO-BUS			•	•	•	•	•

Communications terminal KMT

No.: 21-1010000-01

Terminal with acoustic and optical call forwarding, display, call and the presence key as speech communication.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding AP-KMT surface-mounted frame is required; for countersunk mounting of the case frames DR-KMT, a double connection box installed in the wall must be provided for.

- Call forwarding for set presences
- Call answering in case of active call forwarding
- Setting reminders (with or without timer)
- Announcements
- Timer function
- Radio function (requires sound interface)
- Integrated loudspeaker and microphone
- Integrated LC display with backlight
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Answering button (blue) with status LED
  - Answering button (yellow) with status LED
  - Call button (red) with locating and reassurance light
  - Doctor call button (blau) with reassurance light
  - Answering button (grey) with status LED
  - Three function buttons
- Rear socket for multimedia terminal with safe isolation (in accordance with DIN EN 60601-1)

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	95.7 mA at 2,200 mW typ.
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Multimedia socket:	1 × RJ-45 socket
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	205 × 87 × 24 mm (H×W×D)
Weight:	210 g

Communications terminal light KMT-L

No.: 21-1010001-01

Terminal with acoustic and optical call forwarding, display, call and the presence key as speech communication.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding AP-KMT surface-mounted frame is required; for countersunk mounting of the case frames DR-KMT, a double connection box installed in the wall must be provided for.

- Call forwarding for set presences
- Call answering in case of active call forwarding
- Setting reminders (with or without timer)
- Announcements
- Timer function
- Radio function (requires sound interface)
- Integrated loudspeaker and microphone
- Integrated LC display with backlight
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Answering button (yellow) with status LED
  - Call button (red) with locating and reassurance light
  - Answering button (grey) with status LED
  - Three function buttons
- Rear socket for multimedia terminal with safe isolation (in accordance with DIN EN 60601-1)

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	95.7 mA at 2,200 mW typ.
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Multimedia socket:	1 × RJ-45 socket
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	205 × 87 × 24 mm (H×W×D)
Weight:	210 g

No.: 21-1020000-01

Room terminal with display ZTD-B

Terminal with acoustic and optical call forwarding, display, call and presence buttons as well as five ports for basic components.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding AP-KMT surface-mounted frame is required; for countersunk mounting of the case frames DR-KMT, a double connection box installed in the wall must be provided for.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding
- Integrated LC display with backlight
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Answering button (blue) with status LED
  - Call button (red) with locating and reassurance light
  - Doctor call button (blau) with reassurance light
  - Three function buttons

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	11.3 mA at 215 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Basic interface:	5 × RJ-12 sockets via which the basic components can be connected to the system
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	205 × 87 × 25 mm (H×W×D)
Weight:	171 g

Room terminal with display light ZTD-B- L

No.: 21-1020001-01

Terminal with acoustic and optical call forwarding, display, call and presence buttons as well as five ports for basic components.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding AP-KMT surface-mounted frame is required; for countersunk mounting of the case frames DR-KMT, a double connection box installed in the wall must be provided for.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding
- Integrated LC display with backlight
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light
  - Three function buttons

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	11.3 mA at 215 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Basic interface:	5 × RJ-12 sockets via which the basic components can be connected to the system
Display:	Fully graphic LC display (128 × 64 pixels) with backlight
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	205 × 87 × 25 mm (H×W×D)
Weight:	171 g

Room terminal without display ZT-B

No.: 21-1020002-01

Terminal with acoustic call forwarding, call and presence buttons as well as five ports for basic components.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding AP-KMT surface-mounted frame is required; for countersunk mounting of the case frames DR-KMT, a double connection box installed in the wall must be provided for.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Answering button (blue) with status LED
  - Call button (red) with locating and reassurance light
  - Doctor call button (blau) with reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	11.3 mA at 215 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Basic interface:	5 × RJ-12 sockets via which the basic components can be connected to the system
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	205 × 87 × 25 mm (H×W×D)
Weight:	155 g

RFID terminal RFID-IO-FRT

No.: 21-1020301-01

Terminal with acoustic call forwarding, one call and function button and a RFID antenna for the contactless setting and deactivating of presences. The use of personalised Mifare cards enables the simultaneous setting of several presences of the same staff category.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding surface-mounted frame RFID-GH-APR is required; for countersunk mounting of the case frame RFID-GH-APR and a switch-box installed in the wall must be provided for.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding or as a response to reading processes
- LED as acknowledgement during reading processes
- Integrated antenna for reading RFID smartcards
- Three status LEDs for indicating set presences (green/blue/yellow)
- Releasing of a stored special call by combined use of the RFID smartcard and call button
- Germ inhibiting membrane keypad with the following buttons:
  - Grey function button, configurable for resetting presences
  - Call button (red) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	7 mA at 160 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
RFID aerial:	RF communication in accordance with ISP/IEC 14443 Type A for MIFARE cards (Ultralight, Classic, Plus and DESFire EV1)
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	119 × 87 × 25 mm (H×W×D)
Weight:	85 g

RFID terminal RFID-IO

No.: 21-1020300-01

Terminal with acoustic call forwarding as well as RFID antenna for the contactless setting and deactivating of presences. The use of personalised Mifare cards enables the simultaneous setting of several presences of the same staff category.

Generally installed (wall-mounting) in patient rooms and common rooms. For surface mounting, the corresponding surface-mounted frame RFID-GH-APR is required; for countersunk mounting of the case frame RFID-GH-APR and a switch-box installed in the wall must be provided for.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding or as a response to reading processes
- LED as acknowledgement during reading processes
- Integrated antenna for reading RFID smartcards
- Fungicidal membrane without buttons

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	7 mA at 160 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
RFID aerial:	RF communication in accordance with ISP/IEC 14443 Type A for MIFARE cards (Ultralight, Classic, Plus and DESFire EV1)
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	119 × 87 × 25 mm (H×W×D)
Weight:	85 g

Terminals and accessories

	Label	Type	Article no.
	**Communications terminal**	KMT	21-1010000-01
	**Communications terminal Light**	KMT-L	21-1010001-01
	**Room terminal with display**	ZTD-B	21-1020000-01
	**Room terminal Light display**	ZTD-B-L	21-1020001-01
	**Room terminal without display**	ZT-B	21-1020002-01
	Surface mounted frame	AP-KMT	FC010190
	Case frame	DR-KMT	FC010191
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**RFID terminal RFID-IO-FRT**	RFID-IO-FRT	21-1020301-01
	**RFID terminal RFID-IO**	RFID-IO	21-1020300-01
	**Mifare card**	MFC4C-CD	21-1002500-01
	Installation frame for surface mounting	RFID-GH-APR	EI931617
	Installation frame for countersunk mounting	RFID-GH-UPR	EI931618

	Label	Type	Article no.
	**Countersunk switchbox**	U1	FC88010
	**Cavity wall switchbox**	H1	21-2400000-01

3.6 Intercom terminals

Intercom terminals are devices designed for establishing a speech connection simply by pressing a button. The intercom terminal ICT-IP is especially robust and is mounted permanently in a wall. By pressing the integrated button, a call is released in the Visocall IP system. By call answering, a speech connection can be built up to the terminal. The device is suited as door intercom terminal in weatherproof outdoor areas.

The system function door intercom terminal enables a staff terminal to be used as a intercom terminal in a similar way. The configuration does not require the installation of special hardware, but can be realised for any IP connection modules. Connected staff terminals display a special operating interface, which can be used to build up a direct speech connection to a predefined patient terminal. A monitor lock can be set up for the protection of the patient. The visitor intercom terminal is especially suited for visitors of patients in quarantine.

System connection is implemented as outlined, depending on the device, either directly to a system switch or an IP connection module.

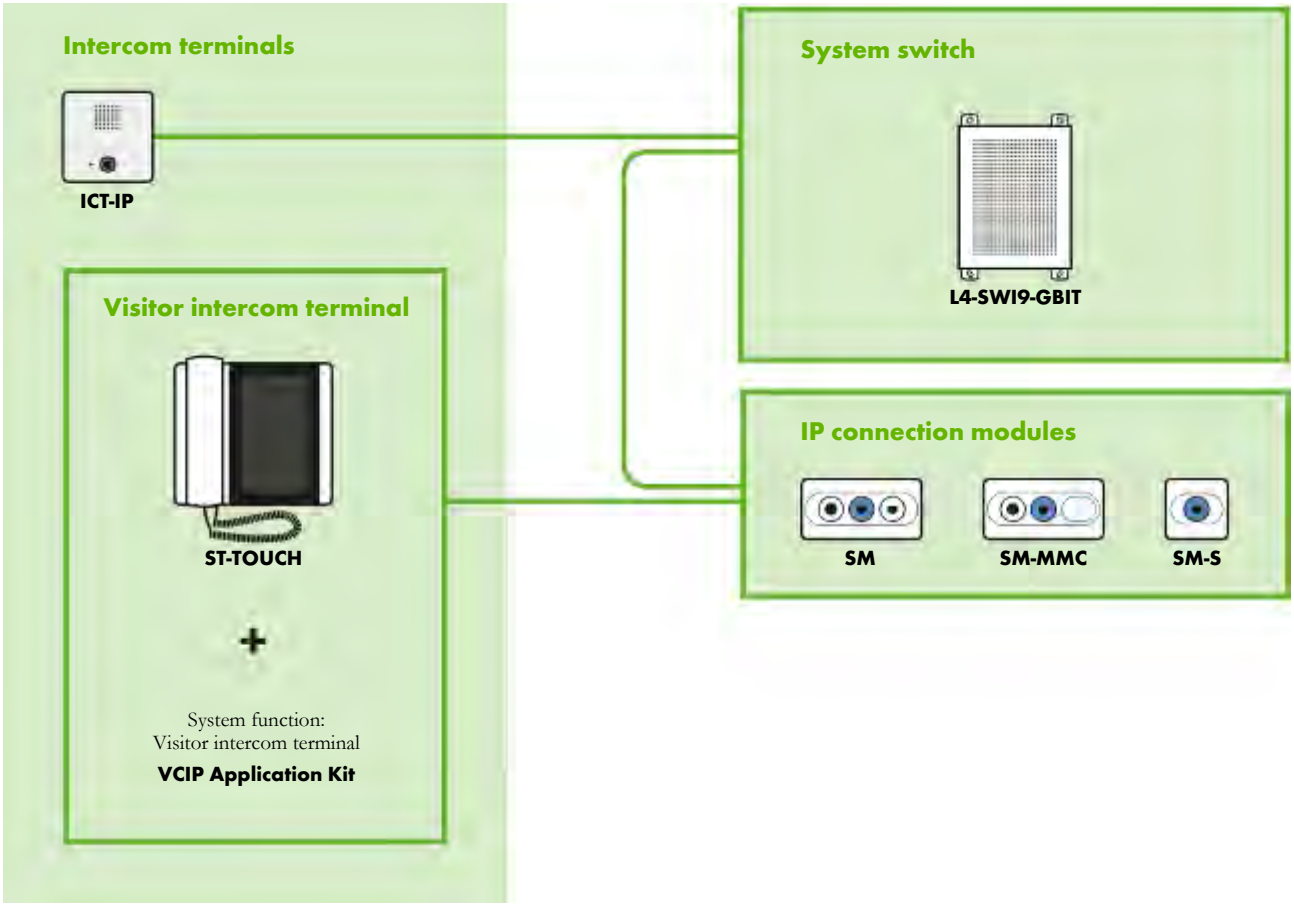


Illustration 5: Connection scheme intercom terminals

Product overview

Features	ICT-IP	Visitor intercom terminal
Use in wet environments	•	
Robust stainless steel case	•	
Freely configurable call button	•	
Touch display for indication and operation		•
Hands free function	•	•
Receiver for one-to-one calls		•
Volume controller on the device		•

Intercom Terminal ICT-IP

No.: 21-1010400-01

Especially robust IP terminal for releasing calls and speech communication.

By pressing the integrated button, a predefined call is released. By call answering, a speech connection can be built up to the terminal. For door intercom terminals, an input/output module can be used for opening doors.

For countersunk mounting, a switch-box U-ICT-IP or H-ICT-IP installed in the wall must be provided for. Due to its moisture-proof circuit board and the robust design, the device is typically used as door intercom terminal in weather-proof outdoor areas.

- For use in wet environments
- Robust stainless steel case
- Integrated loudspeaker and microphone
- Stainless steel panel with freely configurable call button made of stainless steel with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	82.6 mA at 1,900 mW typ.
Interfaces/system connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Installation:	Countersunk
Protection class:	IP 42, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 %
Case:	Stainless steel
Dimensions:	120 × 120 × 32 mm (H×W×D)
Weight:	446 g

No.: Upon request

Visitor intercom terminal

The system function door intercom terminal"enables the use of a staff terminal for direct communication with a predefined device (e.g. patient terminal). A visitor intercom terminal is especially suited for quarantine situations. Via the intuitive operating interface, visitors can build up a speech connection with a predefined patient without assistance by the staff. A monitor lock can be set up for the protection of the patient.

NOTE

Supported from Application Kit 6

Intercom terminals and accessories

	Label	Type	Article no.
	**Staff terminal**	ST-TOUCH	21-1010500-01
	**Visocall IP Application Kit**	SWP-IP/AK	FC010040
	**Input/output module IO-M**	IO-M	21-1023000-01
	**Input/output module IO-M-P**	IO-M-P	21-1023001-01
	**Intercom terminal**	ICT-IP	21-1010400-01
	**Countersunk switchbox**	U-ICT-IP	FC88019
	**Cavity wall switchbox**	H-ICT-IP	FC88018

3.7 Pushbuttons

Pushbuttons are devices which - depending on the version - are designed for setting and deactivating presences, releasing or cancelling calls. Models with integrated sound generators are also suited for the acoustic signalling call forwarding. Due to the standardised design of the cases, the outward appearance of the pushbutton models only differs with regard to the front membrane keypad, the pull cord or a pneumatic element. The easy to clean, germ inhibiting membrane keypad and the recessless design optimise the pushbuttons for use under circumstances with special hygiene requirements. Pushbuttons with call button, doctor call button or service call button are equipped with a locating and reassurance light and therefore suited for use in the dark.

Pushbutton models can be broken down into two groups depending on their connection options:

- **IO-BUS pushbuttons** are connected to the IO-BUS of a system switch. Some of these pushbuttons are also available as a basic version.
- **Basic pushbuttons** are connect to a basic interface and look identical to the corresponding IO-BUS button.

System connection is implemented as outlined via an IO-BUS or a basic interface.

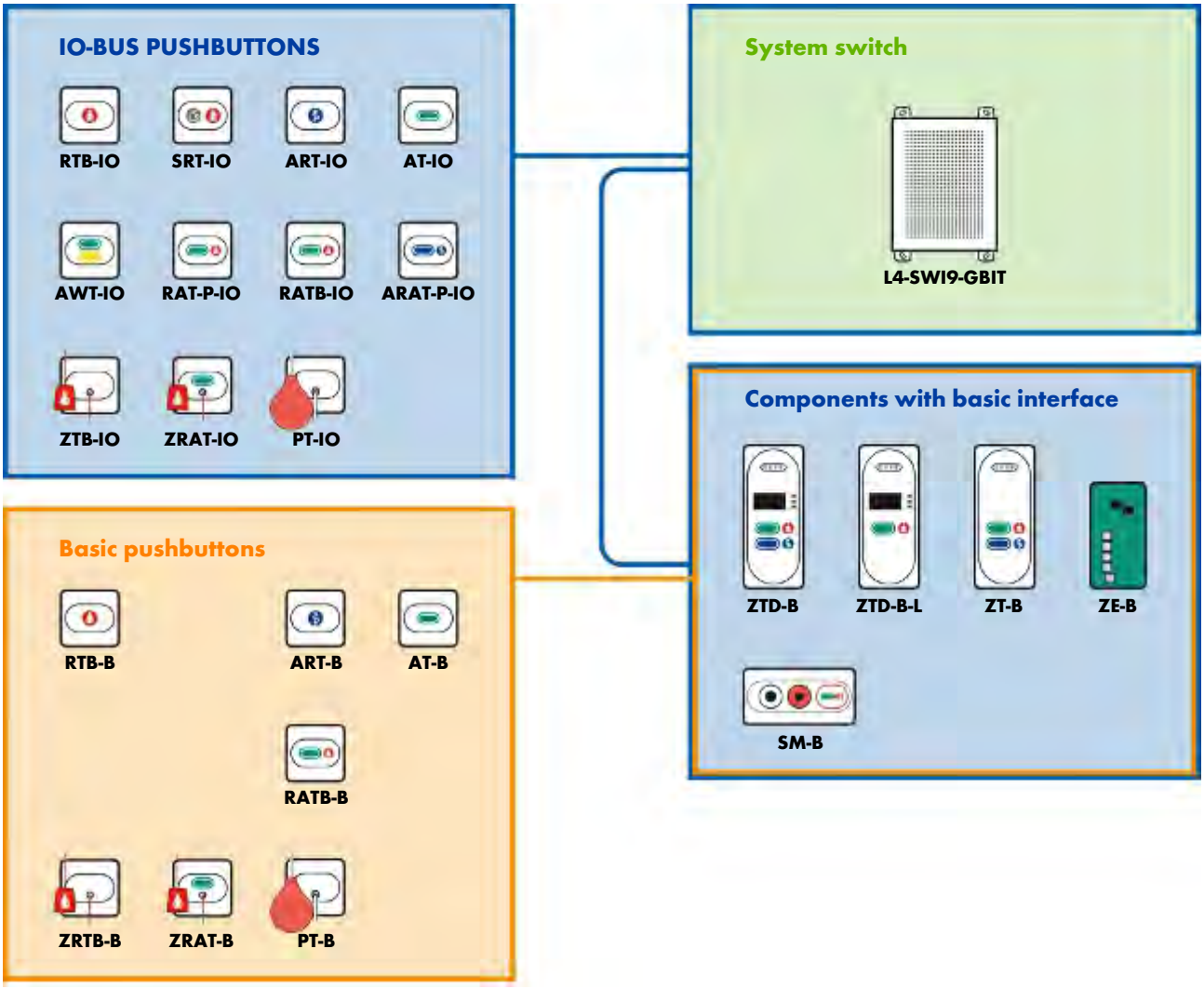


Illustration 6: Connection scheme pushbuttons

Product overview

Features	RTB-IO	RTB-B	SRT-IO	ART-IO	ART-B	AT-IO	AT-B	AWT-IO	RAT-P-IO	RATB-IO	RATB-B	ARAT-P-IO	ZTB-IO	ZRTB-B	ZRAT-IO	ZRAT-B	PT-IO	PT-B
Green cancel or presence button						•	•	•	•	•	•				•	•		
Blue presence button												•						
Yellow presence button								•										
Call button	•	•	•						•	•	•							
Service call button			•															
Doctor call button				•	•							•						
Call forwarding									•			•						
Pull cord (function call button)													•	•	•	•		
Pneumatic bellows (call button function)																	•	•
Use in wet rooms	•	•								•	•		•	•	•	•		
Connection to SWI9 IO-BUS	•		•	•		•		•	•	•		•	•		•		•	
Connection to basic interface		•			•		•				•			•		•		•

No.: 21-1022001-01

Call pushbutton RTB-IO

IO-BUS pushbuttons for releasing calls, equipped with a moisture-proof circuit board with locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, common rooms and rooms with sanitary facilities.

- Intended for use in wet rooms
- Germ inhibiting membrane keypad with the following buttons:
  - Call button (red) with locating and reassurance light
  - Service call button (grey) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

Call pushbutton RTB-B

No.: 21-1032000-01

Basic BUS pushbuttons for releasing calls, equipped with a moisture-proof circuit board with locating and reassurance light.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, common rooms and rooms with sanitary facilities.

- Intended for use in wet rooms
- Germ inhibiting membrane keypad with the following buttons:
  - Call button (red) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	5.8 mA at 110.2 mW typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	5 to 100%
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 28 mm (H×W×D)
Weight:	51 g

No.: 21-1022018-01

Call and service pushbutton SRT-IO

IO-BUS pushbuttons for triggering calls and service calls, equipped with two locating and reassurance lights. A green presence or cancel button is required for cancelling calls. For cancelling service calls, a yellow presence button or - where configured - a green presence or cancel button is provided.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms and common rooms.

- Germ inhibiting membrane keypad with the following buttons:
  - Call button (red) with locating and reassurance light
  - Service call button (grey) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1022016-01

Doctor call pushbutton ART-IO

IO-BUS pushbuttons for releasing doctor calls, equipped with locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in rooms for patients requiring intensive care (intensive care unit).

- Germ inhibiting membrane keypad with the following buttons:
  - Doctor call button (blue) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.1 mA at 39.9 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1032016-01

Doctor call pushbutton ART-B

Basic pushbuttons for releasing doctor calls, equipped with locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in rooms for patients requiring intensive care (intensive care unit).

- Germ inhibiting membrane keypad with the following buttons:
  - Doctor call button (blue) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	5.8 mA at 110.2 mW typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 28 mm (H×W×D)
Weight:	51 g

Cancel pushbutton AT-IO

No.: 21-1022008-01

IO BUS pushbutton for cancelling calls and equipped with a status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1032008-01

Cancel pushbutton AT-B

Basic pushbuttons for cancelling calls, equipped with a status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	0 mA typ., max. 7 mA
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 28 mm (H×W×D)
Weight:	51 g

Presence pushbutton AWT-IO

No.: 21-1022014-01

IO-BUS pushbuttons for setting and deactivating green and yellow presences equipped with two status LED.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in rooms with two entrances, where a terminal is equipped.

- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Answering button (yellow) with status LED

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1022012-01

Call/cancel pushbutton RAT-P-IO

IO-BUS pushbuttons with acoustic call forwarding for releasing calls and setting and deactivating green presences. Equipped with locating and reassurance light and status LED.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms.

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

Call/cancel pushbutton RATB-IO

No.: 21-1022011-01

IO-BUS pushbuttons for releasing and cancelling calls, equipped with locating and reassurance light and status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, common rooms and wet rooms (toilets and wet groups).

- Intended for use in wet rooms
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	5 to 100%
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1032011-01

Call/cancel pushbutton RATB-B

IO-BUS pushbuttons for releasing and cancelling calls, equipped with locating and reassurance light and status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms, common rooms and wet rooms (toilets and wet groups).

- Intended for use in wet rooms
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED
  - Call button (red) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	5.8 mA at 110.2 mW typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	5 to 100%
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 28 mm (H×W×D)
Weight:	51 g

No.: 21-1022020-01

Doctor call/cancel pushbutton ARAT-P-IO

IO-BUS pushbuttons with acoustic call forwarding for releasing calls and setting and deactivating blue presences. Equipped with locating and reassurance light and status LED.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms as addition for a terminal without doctor call button and in rooms for medical staff (doctor's rooms).

- Call forwarding for set presences
- Integrated sound generator for signalling in case of call forwarding
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (blue) with status LED
  - Doctor call button (blue) with locating and reassurance light

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.5 mA typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	5 to 100%
Case:	Plastic ABS, white RAL 9016
Dimensions:	80 × 82 × 32 mm (H×W×D)
Weight:	58 g

No.: 21-1022003-01

Pull cord call switch ZTB-IO

IO-BUS pushbuttons for releasing calls with a pull cord, for individuals requiring assistance in situations with restricted mobility. Equipped with moisture-proof circuit board and a locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

In accordance with VDE 0834, pull cord call switches must be installed in shower cabins at least 20 centimeter above the highest possible position of the shower head. The pull cord must end 10 to 20 centimerter above the floor.

- Intended for use in wet rooms
- Integrated locating and reassurance light
- Actuating the pull cord has the same effect as pressing a call button (red)
- Fast-exchange pull cord (approx. two meter) with snap hook
- Red grip with nurse symbol

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 %
Case:	Plastic ABS, white RAL 9016
Pull cord:	approx. 2 m, max. tensile force 120 N
Grip:	30 × 35 × 13 mm (H×W×D)
Dimensions:	80 × 82 × 53 mm (H×W×D)
Weight:	59 g or 74 g (including pull cord and grip)

No.: 21-1032003-01

Pull cord call switch ZRTB-B

Basic pushbuttons for releasing calls with a pull cord, for individuals requiring assistance in situations with restricted mobility. Equipped with moisture-proof circuit board and a locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

In accordance with VDE 0834, pull cord call switches must be installed in shower cabins at least 20 centimeter above the highest possible position of the shower head. The pull cord must end 10 to 20 centimerter above the floor.

- Intended for use in wet rooms
- Integrated locating and reassurance light
- Actuating the pull cord has the same effect as pressing a call button (red)
- Fast-exchange pull cord (approx. two meter) with snap hook
- Red grip with nurse symbol

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.9 mA at 55.1 mW typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 %
Case:	Plastic ABS, white RAL 9016
Pull cord:	approx. 2 m, max. tensile force 120 N
Grip:	30 × 35 × 13 mm (H×W×D)
Dimensions:	80 × 82 × 47 mm (H×W×D)
Weight:	54 g or 69 g (including pull cord and grip)

No.: 21-1022004-01

Pull cord call switch/cancel pushbutton ZRAT-IO

IO-BUS pushbuttons for releasing calls with a pull cord, for individuals requiring assistance in situations with restricted mobility. Equipped with moisture-proof circuit board, cancel button and a locating and reassurance light status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

In accordance with VDE 0834, pull cord call switches must be installed in shower cabins at least 20 centimeter above the highest possible position of the shower head. The pull cord must end 10 to 20 centimerter above the floor.

- Intended for use in wet rooms
- Integrated locating and reassurance light
- Actuating the pull cord has the same effect as pressing a call button (red)
- Fast-exchange pull cord (approx. two meter) with snap hook
- Red grip with nurse symbol
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.5 mA typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 %
Case:	Plastic ABS, white RAL 9016
Pull cord:	approx. 2 m, max. tensile force 120 N
Grip:	30 × 35 × 13 mm (H×W×D)
Dimensions:	80 × 82 × 53 mm (H×W×D)
Weight:	59 g or 74 g (including pull cord and grip)

No.: 21-1032004-01

Pull cord call switch/cancel pushbutton ZRAT-B

Basic pushbuttons for releasing calls with a pull cord, for individuals requiring assistance in situations with restricted mobility. Equipped with moisture-proof circuit board, cancel button and a locating and reassurance light status LED. The cancel button can be optionally configured as a green presence button.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in wet rooms (toilets or wet groups).

In accordance with VDE 0834, pull cord call switches must be installed in shower cabins at least 20 centimeter above the highest possible position of the shower head. The pull cord must end 10 to 20 centimerter above the floor.

- Intended for use in wet rooms
- Integrated locating and reassurance light
- Actuating the pull cord has the same effect as pressing a call button (red)
- Fast-exchange pull cord (approx. two meter) with snap hook
- Red grip with nurse symbol
- Germ inhibiting membrane keypad with the following buttons:
  - Answering button (green) with status LED

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.5 mA typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 %
Case:	Plastic ABS, white RAL 9016
Pull cord:	approx. 2 m, max. tensile force 120 N
Grip:	30 × 35 × 13 mm (H×W×D)
Dimensions:	80 × 82 × 47 mm (H×W×D)
Weight:	54 g or 69 g (including pull cord and grip)

No.: 21-1022006-01

Pneumatic call switch PT-IO

IO-BUS pushbuttons for releasing calls with bellows, for individuals requiring assistance in situations with restricted mobility. Equipped with a locating and re-assurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms near the bed in the bed in the vicinity of the headboard and in facilities for peat pulp and mud baths.

- Integrated locating and reassurance light
- Actuating the bellows has the same effect as pressing a call button (red)
- Fast-exchange plastic hose (approx. 2.2 m)

System compatibility:	Visocall IP
Operating voltage:	15 – 27 V DC
Power consumption:	2.7 mA at 51.3 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Plastic hose:	approx. 2.2 m
Bellows:	79 × 61 mm (H×D)
Dimensions:	80 × 82 × 52 mm (H×W×D)
Weight:	54 g or 159 g (including hose and bellow)

No.: 21-1032006-01

Pneumatic call switch PT- B

Basic pushbuttons for releasing calls with bellows, for individuals requiring assistance in situations with restricted mobility. Equipped with a locating and reassurance light. A green presence or cancel button is required for cancelling calls.

Suitable for installation in the media duct or for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed in patient rooms near the bed in the bed in the vicinity of the headboard and in facilities for peat pulp and mud baths.

- Integrated locating and reassurance light
- Actuating the bellows has the same effect as pressing a call button (red)
- Fast-exchange plastic hose (approx. 2.2 m)

System compatibility:	Visocall IP
Operating voltage:	15 – 30 V DC
Power consumption:	2.9 mA at 55.1 mW typ.
Interfaces/system connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (basic interface with power supply)
Installation:	Surface mounted, countersunk or in a service duct
Protection class:	IP 44, VDE 0834 Environmental class II
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Plastic hose:	approx. 2.2 m
Bellows:	79 × 61 mm (H×D)
Dimensions:	80 × 82 × 44 mm (H×W×D)
Weight:	49 g or 154 g (including hose and bellow)

Pushbuttons and accessories

	Label	Type	Article no.
	**Call pushbutton RTB-IO**	RTB-IO	21-1022001-01
	**Call pushbutton RTB-B**	RTB-B	21-1032000-01
	**Call and service pushbutton SRT-IO**	SRT-IO	21-1022018-01
	**Doctor call pushbutton ART-IO**	ART-IO	21-1022016-01
	**Doctor call pushbutton ART-B**	ART-B	21-1032016-01
	**Cancel pushbutton AT-IO**	AT-IO	21-1022008-01
	**Cancel pushbutton AT-B**	AT-B	21-1032008-01
	**Presence pushbutton AWT-IO**	AWT-IO	21-1022014-01
	**Call/cancel pushbutton RAT-P-IO**	RAT-P-IO	21-1022012-01
	**Call/cancel pushbutton RATB-IO**	RATB-IO	21-1022011-01
	**Call/cancel pushbutton RATB-B**	RATB-B	21-1032011-01
	**Doctor call/cancel pushbutton ARAT-P-IO**	ARAT-P-IO	21-1022020-01
	**Pull cord call switch ZTB-IO**	ZTB-IO	21-1022003-01
	**Pull cord call switch ZRTB-B**	ZRTB-B	21-1032003-01

	Label	Type	Article no.
	**Pull cord call switch/cancel pushbutton ZRAT-IO**	ZRAT-IO	21-1022004-01
	**Pull cord call switch/cancel pushbutton ZRAT-B**	ZRAT-B	21-1032004-01
	**Pneumatic call switch PT-IO**	PT-IO	21-1022006-01
	**Pneumatic call switch PT- B**	PT-B	21-1032006-01
	**Pull cord call switch cord red incl. snap hook and grip, 10 pcs. (replacement)** Pull cord length 2.3 m	ZT-S2-E	21-1002300-01
	**Pull cord call switch cord red incl. snap hook and grip, 10 pcs. (replacement)** Pull cord length 4 m	ZT-S4-E	21-1002300-02
	**Pull cord call switch cord red incl. snap hook, 10 pcs. (replacement)** Pull cord length 2.3 m	ZT-S2	21-1002301-01
	**Pneumatic handheld button (replacement)** with connection hose 2.2 m	PT-BI	EI931140
	**Pull cord call switch IP66** with locating and reassurance light (change-over contact)	ZT-IP66	FC007972
	**Pull cord call switch IP68** with locating light, without reassurance light (change-over contact)	ZT-IP68	FC007974
	**Call pushbutton IP66** with locating light, without reassurance light (change-over contact)	RT-IP66	FC007975
	**Cancel pushbutton IP66** with locating and reassurance light (change-over contact)	AT-IP66	FC007973
	**Countersunk switchbox**	U1	FC88010
	**Cavity wall switchbox**	H1	21-2400000-01

	Label	Type	Article no.
	**AP case AP-1**	APA-1	FC008991

3.8 Call indications

Call indications are devices which are designed for the optical signalling of calls and reminders of all kinds. The information is indicated in accordance with VDE 0834. VDE 0834 confirm call systems must additionally comply with the requirements with regard to the installation position.

Call indications can be broken down into two groups:

- **Overdoor lights** are equipped with several indicator fields in different colours for indicating calls, presences and reminders. The colour-coded indication is based on VDE 0834. Generally installed as a room lamp in front of all rooms with a presence or call option.
- **Large text indicators** show calls and reminders in an alphanumeric order to guide staff to the call location by the shortest route. Generally installed in corridors, where they are used for the grouped indication for several rooms (analogous to group lamps).

System connection is implemented as outlined, depending on the model, via an IO-BUS, a basic interface or a hardware interface.

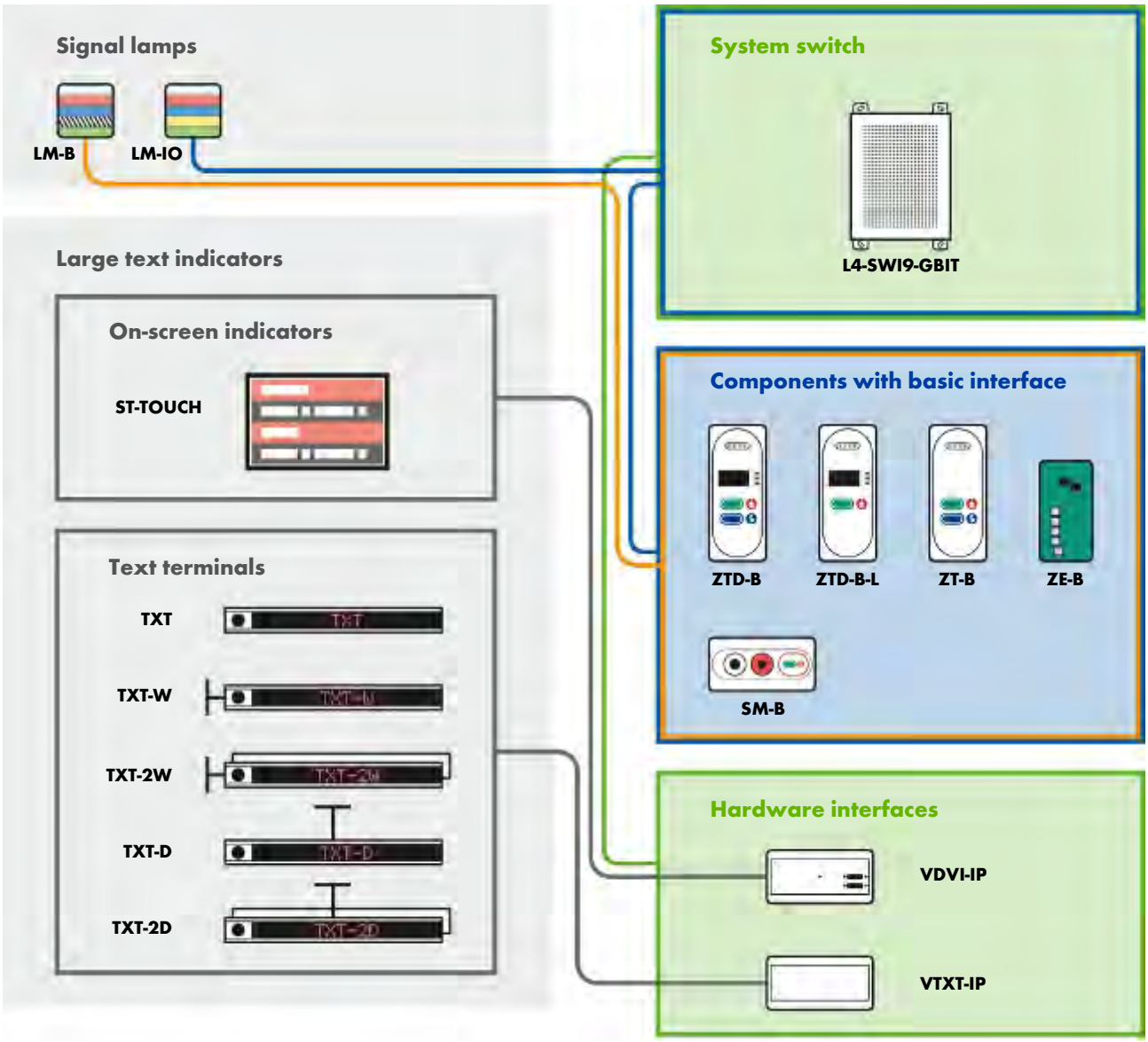


Illustration 7: Connection scheme call indications

Product overview

Features	LM-IO	LM-B	On-screen indicators	TXT	TXT-W	TXT-D	TXT-2W	TXT-2D
Use as room lamp	•	•	•					
Use as group, care group and direction lamp	•							
Colours for colour-coded indication	•••••	••••	•••••					
Alphanumeric indication (wards and rooms abbreviated)				•	•	•	••	••
Alphanumeric indication (wards and rooms written out)			••					
Loudspeaker for announcements				•	•	•	••	••
Separate power supply		•	•					
Connection to SWI9 IP port via			VDVI-IP	TVI-IP	TVI-IP	TVI-IP	TVI-IP	TVI-IP
Connection to SWI9 IO-BUS	•							
Connection to basic interface		•						

No.: 21-1022500-01

Light module LM-IO

Call indication for the optical signalling of calls, presences and reminders. Five indicator fields for colour-coded indication in accordance with VDE 0834. Can be used as room, group, care group and direction lamp.

Suitable for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed as a room lamp in front of all rooms with a presence or call option.

- Discreet white light in idle mode
- Bright, eye-catching colours when active
- Light-diffusing cover for even light signals
- Five LED indicator fields in the colours white, red, blue, yellow, green with three colour LED each

System compatibility:	Visocall IP
Operating voltage:	15 – 27 V DC
Power consumption:	60 mA at 1140 mW typ.
Interfaces/system connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Light sources:	
Lighting intensity:	max. 2500 Lux
Brightness:	250 cd to 750 cd per m^2 (depending on the viewing angle)
Case:	Plastic ABS, white RAL 9010
Light-diffusing cover:	PMMA translucent
Dimensions:	80 × 82 × 60 mm (H×W×D)
Weight:	101 g

No.: 21-1032500-01

Light module LM-B

Call indication usable as room lamp, for the optical signalling of calls, presences and reminders. Four indicator fields for colour-coded indication in accordance with VDE 0834. Suitable for wall mounting.

Suitable for wall mounting. For surface mounting, the corresponding APA-1 surface-mounted housing is required; for countersunk mounting, a switchbox installed in the wall must be provided for. Generally installed as a room lamp in front of all rooms with a presence or call option.

NOTE

The light module LM-B cannot be configured as a group, care group or direction lamp.

- Discreet white light in idle mode
- Bright, eye-catching colours when active
- Light-diffusing cover for even light signals
- Four LED indicator fields in the colours white, red, blue, green with three colour LED each

System compatibility:	Visocall IP
Operating voltage:	15 – 307 V DC
Power consumption:	60 mA at 1140 mW typ.
Interfaces:	
System connection:	1 × RJ-12 socket for connection to the basic interface of a ZTD-B, ZTD-B-L, ZT-B, ZE-B or SM-B (Basic interface)
24 VDC - input:	Rear screw-type terminal for power supply
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Light sources:	
Lighting intensity:	max. 2500 Lux
Brightness:	250 cd to 750 cd per m^2 (depending on the viewing angle)
Case:	Plastic ABS, white RAL 9010
Light-diffusing cover:	PMMA translucent
Dimensions:	80 × 82 × 54 mm (H×W×D)
Weight:	99 g

Text terminal TXT

No.: FC008810

No.: FC008811

No.: FC008812

No.: FC008814

Large text indicators for the grouped signalling of calls, presences and reminders. The alphanumeric indication of the call location guides the staff to the location by the shortest route. Equipped with a loudspeaker. Available in different designs for mounting on the ceiling or wall.

For flush wall-mounting, the text terminal TXT and two wall wall-mounted brackets TXT-WH are required. For wall-mounting at a right angle, the text terminal TXT-W - for ceiling mounting, the text terminals TXT-D and TXT-2D - can be used without additional accessories. Generally installed in corridors, communal areas and in front of staff duty rooms.

- Indication of calls and reminders of several rooms under consideration of call priorities
  - Alphanumeric indication of group/ward, room and bed
  - Indication of group/ward and room as abbreviations (three characters)
- Alternating indication of time and date in idle mode
- Character height eight centimeter
- Up to twelve characters can be displayed simultaneously
- 80 self-luminous LED per character
- Loudspeakers for the acoustic signalling of calls and for announcements
- Models with a display and loudspeaker:
  - Text terminal TXT (flush wall-mounting)
  - Text terminal TXT-W (wall-mounting at a right angle)
  - Text terminal TXT-D (ceiling mounting)
- Models with two opposite displays and two loudspeakers:
  - Textterminal TXT-2D (ceiling mounting)
- The text terminals TXT-D and TXT-2D can be mounted at a distance between 82 cm and 100 cm from the ceiling

System compatibility:	Visocall IP, Visocall Plus
Operating voltage:	24 V DC
Power consumption:	approx. 50 mA typ. in idle mode approx. 1 A when activated
Interfaces/system connection:	Block terminal for the connection of a VTXT-IP or V-TXT (RS-485 and RS-232 interface with power supply and contacts for an analogue audio signal)
Installation:	Surface mounting
Protection class:	VDE 0834 Environmental class I
Case:	Aluminium, white RAL 9010
Dimensions:	978 × 110 × 40mm (H×W×D) each display
Weight:	
TXT	approx. 4 kg
TXT-W, TXT-D	approx. 4 kg
TXT-2D	approx. 7.5 kg

No.: Upon request

On-screen indicators

The hardware interface VDVI-IP enables the use of monitors and TV sets via DVI connection for indicating calls and reminders. Generally installed in corridors, where they are used for the grouped indication for several rooms. The alphanumeric indication can indicate two calls (or reminders), under consideration of the call priorities, at a time. In case of more than two calls, all calls will be indicated alternately. Calls and reminders are colour-coded. Texts of groups/ wards, rooms and beds are indicated at full length.

Call indications and accessories

	Label	Type	Article no.
	**Light module LM-IO**	LM-IO	21-1022500-01
	**Light module LM-B**	LM-B	21-1032500-01
	**Text terminal TXT**	TXT	FC008810
	Wall-mounted bracket for TXT	TXT-WH	EI931149
	Text terminal TXT-W	TXT-W	FC008811
	Text terminal TXT-D	TXT-D	FC008812
	Text terminal TXT-2D	TXT-2D	FC008814
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**AP case AP-2**	APA-2	FC008992
	**Countersunk switchbox**	U1	FC88010
	**Cavity wall switchbox**	H1	21-2400000-01
	**AP case AP-1**	APA-1	FC008991

3.9 Hardware interfaces

Hardware interfaces are parts of the call system which serve as physical connection components for other systems. They enable audio systems, display devices, TV sets, light and blind controls, etc. to be integrated in the call system. The only exception are the room electronics ZE-B which serves as connection for basic devices.

Hardware interfaces can be broken down into two groups depending on their connection options:

- **IP interfaces** are connected to the IP port of a system switch.
- **IO-BUS interfaces** are connected to the IO-BUS of a system switch.

System connection is implemented as outlined via an IP port or IO-BUS, depending on the terminal.

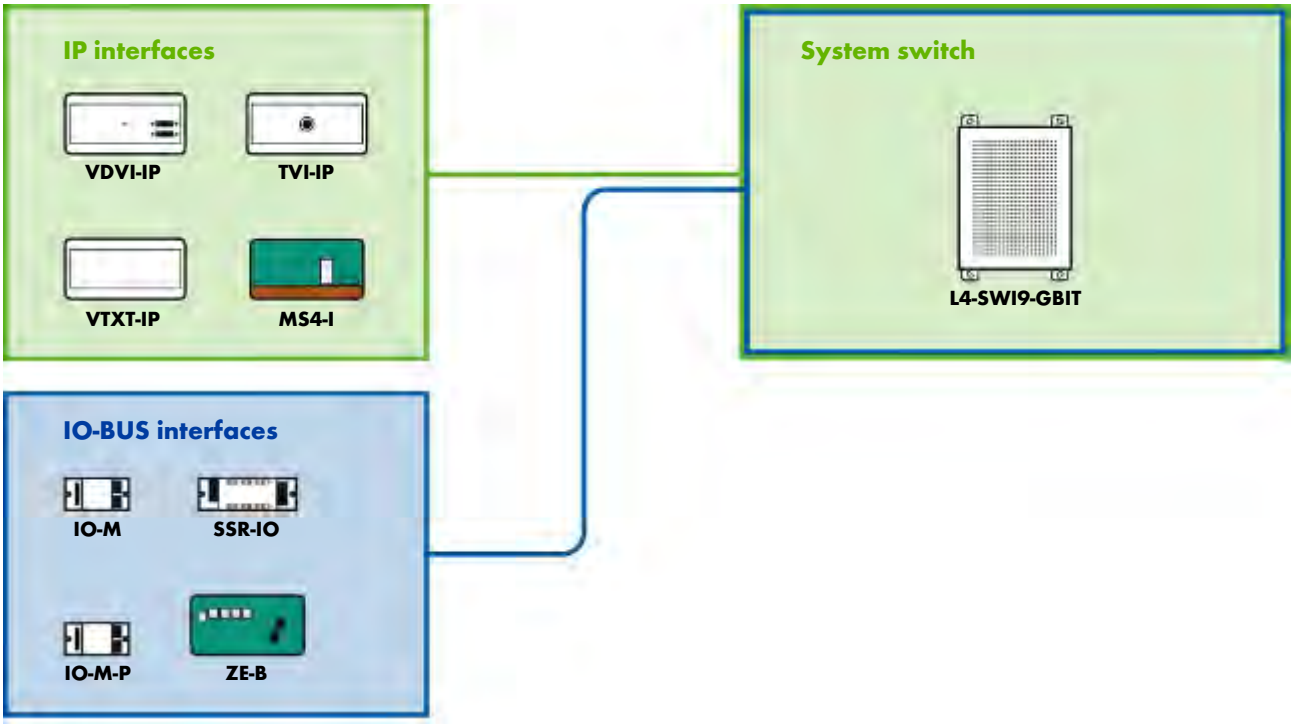


Illustration 8: Connection scheme hardware interfaces

Product overview

Features	VDVI-IP	VTXT-IP	TVI-IP	MS4-I	IO-M-P	IO-M	SSR-IO	ZE-B
Sockets for on-screen indicators	••							
Sockets for text terminals		••						
Sockets for system TV			•					
Connection for external audio systems (announcements)				•				
Relay outputs controllable via the call system					•••	•••		
Isolated inputs to the call system						•••		
Non-isolated inputs to the call system					•••			
Controllable electric circuits via the call system (light control)							••	
Connection to basic devices								•••••
Separate power supply		•						
Connection to SWI9 IP port	•	•	•	•				
Connection to SWI9 IO-BUS					•	•	•	•

No.: 21-1013003-01

Connection distributor DVI monitor VDVI-IP

Hardware interface for the connection of one or two monitors for use as on-screen indicators (grouped indication of calls and reminders). The alphanumeric indication of the call location guides the staff to the location by the shortest route.

Suitable for wall mounting. For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in corridors, communal areas and in front of staff duty rooms.

- 2 DVI-D sockets for the connection of one monitor or TV each
  - Output of the same image on both DVI sockets
  - Connection of HDMI devices via passive DVI-HDMI adapter possible
- Image output with 1280 × 720 pixels and 60 Hz (720p60)
- Indication of calls and reminders of several rooms under consideration of call priorities; alphanumeric indication of group/ward, room and bed
- Coloured display text with the following colour coding
  - All calls are presented with a red background
  - Heart alarms are presented with a light blue background and a red frame
  - Reminders are presented with the background colour of the relevant staff category (green, blue, yellow)
- Simultaneous indication of two calls (or reminders); In case of more than two calls, all calls will be indicated alternately
- Indication of time and date in idle mode (optionally also permanently; this will enable only once call to be displayed at a time)
- Optionally, information can be displayed during announcements
- Integrated sound generator for signalling in case of call forwarding

System compatibility:	Visocall IP
Operating voltage:	18.5 – 30 V DC
Power consumption:	3,0 W typ. / max. 4,2 W
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Monitor/TV connection:	2 × DVI-D sockets for the connection of one monitor or TV each (image output: 720p60)
Installation:	Surface or countersunk mounting
Protection class:	IP 30, VDE 0834 Environmental class I
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 34 mm (H×W×D)
Weight:	158 g

Connection distributor VTXT-IP

No.: 21-1013002-01

Hardware interface for the connection of one or two text terminals. Controls the text and audio output of connect text terminals

Suitable for wall mounting. For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally installed in corridors, communal areas and in front of staff duty rooms.

- The following articles use a connection of the VTXT-IP:
  - Text terminal TXT
  - Text terminal TXT-W
  - Text terminal TXT-D
- The following articles use both ports of the VTXT-IP:
  - Text terminal TXT-2D

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	69.6 mA at 1,600 mW typ.
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface)
24 V DC input:	1 × screw-type terminal for supplying the connected text terminals sockets with power
Text terminal ports:	2 × block terminals for the connection of up to two text terminals (RS-485 and RS-232 interface with power supply and contacts for an analogue audio signal)
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 34 mm (H×W×D)
Weight:	155 g

No.: 21-1013001-01

TV interface TVI-IP

Hardware interface for the control of a connected system TV and for picking up its sound or feeding it into the Visocall IP system.

Suitable for wall mounting. For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. Generally mounted in patient rooms and common rooms.

- Supports TV sets various manufacturers
- TV set can be configured as a room TV or bed TV
- Control of the TV via one or several patient terminals
- Audio output via the TV or the allocated patient terminals

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Power consumption:	82.6 mA at 1,900 mW typ.
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Connection TV set:	1 × 8-pin DIN socket for the connection of a TV set (TV control via RS-485, RS-232 or CMOS interface and conversion of the sound to the call system)
Installation:	Surface or countersunk mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic ABS, white RAL 9016
Dimensions:	83 × 160 × 32 mm (H×W×D)
Weight:	120 g

Cable for TV Interface

No.: 21-1002031-01

No.: 21-1002031-02

No.: 21-1002031-03

No.: 21-1002031-04

No.: 21-1002031-05

No.: 21-1002030-01

No.: 21-1002030-02

Cable for connecting a system TV with a TV interface TVI-IP. Equipped with an 8-pin DIN connector plug for connection to the TV interface. Available in the following version for connection to the TV set:

- Connection cable for Philips TV
  - **21-1002031-05:** Y-cable emerging from DIN connector plug (straight) to RJ-45 plug (straight, 1.5 m cable) and to 3.5 mm jack plug (angled, 1.5 m cable)
  - **21-1002031-02:** Y-cable emerging from DIN connector plug (straight) to RJ-45 plug (straight, 1.5 m cable) and to 3.5 mm jack plug (straight, 1.5 m cable)
  - **21-1002031-03:** Y-cable emerging from DIN connector plug (straight) to RJ-45 plug (straight, 3 m cable) and to 3.5 mm jack plug (straight, 3 m cable)
  - **21-1002031-04:** Y-cable emerging from DIN connector plug (straight) to RJ-45 plug (straight, 4 m cable) and to 3.5 mm jack plug (straight, 4 m cable)
  - **21-1002031-01:** Y-cable emerging from DIN connector plug (angled) to DIN plug (straight, 1.5 m cable) and to 3-pin connection strip (0.2 m cable)
- Connection cable for Samsung TV
  - **21-1002030-01:** Y-cable emerging from DIN connector plug (straight) to RJ-12 plug (straight, 1.5 m cable) and to 3.5 mm jack plug (angled, 1.5 m cable)
  - **21-1002030-02:** Y-cable emerging from DIN connector plug (straight) to RJ-45 plug (straight, 1.5 m cable) and to 3.5 mm jack plug (angled, 1.5 m cable)

No.: 21-1013000-01

Multi sound 4 interface MS4-I

Hardware interface for the connection of an external audio system. Depending on the configuration, these can be fed into or picked up from the call system with MS4-I audio signals. Generally used for announcements.

For surface mounting, the corresponding case GH-ZE-B and spacer ZUB-ZE-B are required. For installation in a media duct, the board can be snapped off at the perforation. Generally installed in suspended ceilings and media ducts.

NOTE

The audio quality of the device does not correspond to any standards for electroacoustics or evacuation systems.

- Plays announcements from an external source on the call system
- Plays announcements made in the call system on the external audio system
- Plays the radio stream of a communications terminal on an external audio system
- Input and output level adjustable
- Multimedia socket for network connections to a multimedia terminal. This must provide a safe isolation in accordance with DIN EN 60601-1 (2 × MOPP).

System compatibility:	Visocall IP
Operating voltage:	16 – 30 V DC
Power consumption:	140 mA typ. / max. 500 mA
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the IP port of a SWI9 (LAN interface with PoE)
Multimedia socket:	1 × RJ-45 socket
Terminal strip:	1 × screw-type terminal strip for audio output and input (wire diameter up to 1.5 mm^2)
Audio output:	
Level:	-20 to +6 dBV
Output impedance:	< 600 Ω > 1000 Ω
Audio input:	
Level:	-38 to +10 dBV
Input impedance:	> 1000 Ω
Recommended source impedance:	< 1000 Ω
Installation:	Surface mounted or in a service duct
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Dimensions:	80 × 151 × 26 mm (H×W×D), 62 × 151 × 26 mm (H×W×D)(minimised)
Weight:	102 g

Input/output module IO-M-P

No.: 21-1023001-01

Bidirectional hardware interface for the connection of non-system components with three non-isolated inputs and three outputs for the control of electric blinds and other nurse call independent consumer devices via patient terminals.

Two screws are required for surface mounting; the devices are generally installed in suspended ceilings.

- Receipt of status messages from external devices (inputs)
  - Coupled events can be provided with a message text and call priority
  - The indication of messages can be related to a ward or staff category
- Transmission of status messages to external devices (outputs)
  - Events such as the pressing of a button on a patient handset, presence in a room, can be coupled to a relay
  - Control of blinds and other consumer devices
- Three relay outputs, configurable as NO or NC contact (2 coil, bistable relays)
- Three non-isolated inputs for the connection of isolated contacts; galvanic isolation by an optocoupler

System compatibility:	Visocall IP
Operating voltage:	15 – 27 V DC
Power consumption:	2 mA at 38 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Terminal strip:	1 × screw-type terminal strip for relay output and input (wire diameter up to 1.5 mm^2)
Relay outputs:	
Switching voltage:	0.01 – 60 V DC
Switching current:	0,01 – 2000 mA
Switching power:	60 W (60 V/1 A)
Switching frequency:	max. 100 Hz (every 10 ms, a relay can change its status)
Pulse emission:	0.001 – 2.56 s (10 ms intervals)
Length of wire:	max. 200 m
Inputs:	
Answering unit current:	9 mA
Answering unit voltage:	3 – 6 V DC
Terminal resistance:	180 Ω (only for supervised inputs)
Alarm resistor:	180 Ω (only for supervised inputs)
Line resistance:	max. 30 Ω
Answering unit impulse/ cycle:	100 µs / 100 ms 10 µs
Input filter:	max. 50 m
Length of wire:	>1 s (switching states with a duration of longer than 300 ms and with a repeat time of greater than 1 s are detected)
Period duration:	
Installation:	Surface mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic, white
Dimensions:	42 × 85 × 26 mm (H×W×D)
Weight:	41 g

No.: 21-1023000-01

Input/output module IO-M

Bidirectional hardware interface for the connection of non-system components with three non-isolated inputs and three outputs for the control of electric blinds and other nurse call independent consumer devices via patient terminals.

Two screws are required for surface mounting; the devices are generally installed in suspended ceilings.

- Receipt of status messages from external devices (inputs)
  - Coupled events can be provided with a message text and call priority
  - The indication of messages can be related to a ward or staff category
- Transmission of status messages to external devices (outputs)
  - Events such as the pressing of a button on a patient handset, presence in a room, can be coupled to a relay
  - Control of blinds and other consumer devices
- Three relay outputs, configurable as NO or NC contact (2 coil, bistable relays)
- Three non-isolated inputs for the connection of isolated contacts; galvanic isolation by an optocoupler

System compatibility:	Visocall IP
Operating voltage:	15 – 27 V DC
Power consumption:	2 mA at 38 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Terminal strip:	1 × screw-type terminal strip for relay output and input (wire diameter up to 1.5 mm^2)
Relay outputs:	
Switching voltage:	0.01 – 60 V DC
Switching current:	0,01 – 2000 mA
Switching power:	60 W (60 V/1 A)
Switching frequency:	max. 100 Hz (every 10 ms, a relay can change its status)
Pulse emission:	0.001 – 2.56 s (10 ms intervals)
Length of wire:	max. 200 m
Inputs:	
Voltage range:	15 – 30 V DC
Input resistance:	4,990 Ω
Input current:	max. 6 mA
Length of wire:	max. 200 m
Installation:	Surface mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic, white
Dimensions:	42 × 85 × 26 mm (H×W×D)
Weight:	41 g

Latching relay SSR-IO

No.: 21-1023004-01

Hardware interface for switching one or two separate circuits. An electric circuit can be additionally controlled via a light switch. This is generally used for the control of room and reading lights via patient handsets.

Two screws are required for surface mounting; the devices are generally installed in suspended ceilings.

CAUTION
Inadequate ventilation

At least 2 centimert space must be left around the ventilation slits.

- Switching of up to two separate electric circuits (e.g. room and reading light)
- Control takes place via the call system (e.g. via patient handsets)
- Output 1 can be additionally controlled via a commercial light switch (function provided also without call system)
- Power supply via 230 VAC input (L); if none is available, the power supply will be provided via the IO-BUS
- Circuit diagram printed on the case

System compatibility:	Visocall IP
Operating voltage:	primary 230 V AC +10 %/–15 % above input (L), alternatively 10 – 30 V DC above IO-BUS
Power consumption:	0.9 mA at 17.1 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Terminal strip:	1 × plug-in terminal strip for relay output and input (wire diameter up to 1.5 mm^2)
Relay outputs:	
Switching voltage:	max. 260 V AC
Constant current consumption:	max. 8 A
Inrush current surge for the device:	max. 165 A/20 ms or 800 A/200 us
Switching capacity upon opening:	max. 4000 VA
Pushbutton input (SW):	
Input voltage:	230 V AC + 10 %/– 15 %
Input current:	6 mA typ.
Installation:	Surface mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Plastic, white
Dimensions:	43 × 130 × 30 mm (H×W×D)
Weight:	156 g

No.: 21-1023005-01

ZE-B room electronics

Hardware interface for the connection of five basic components.

For surface mounting, the corresponding case GH-ZE-B and spacer ZUB-ZE-B are required. Generally installed in suspended ceilings.

- Five ports for basic components
- Connection for an IO-BUS of a system switch

System compatibility:	Visocall IP
Operating voltage:	15 – 30 VDC
Power consumption:	5 mA @ 95 mW typ.
Interfaces:	
System connection:	2 × RJ-45 sockets for connection to the IO BUS of a SWI9 (RS-485 interface with power supply)
Basic interface:	5 × RJ-12 sockets via which the basic components can be connected to the system
Installation:	Surface mounting
Protection class:	IP 32, VDE 0834 Environmental class II
Ambient temperature:	+5 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Dimensions:	80 × 151 × 19 mm (H×W×D)
Weight:	69 g

Hardware interfaces and accessories

	Label	Type	Article no.
	**Connection distributor DVI monitor**	VDVI-IP	21-1013003-01
	Connection distributor VTXT-IP	VTXT-IP	21-1013002-01
	**TV interface TVI-IP**	TVI-IP	21-1013001-01
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack bent, 1.5 m	K-TVI-PHILIPS-5	21-1002031-05
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 1.5 m	K-TVI-PHILIPS-2	21-1002031-02
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 3 m	K-TVI-PHILIPS-3	21-1002031-03
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 4 m	K-TVI-PHILIPS-4	21-1002031-04
	**Cable for TVI-IP PHILIPS** Length 1.5 m, SCART connector, connection strip	K-TVI-PHILIPS	21-1002031-01
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN straight, jack angled	K-TVI-SAMSUNG	21-1002030-01
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN angled, jack angled	K-TVI-SAMSUNG-2	21-1002030-02
	**Multi Sound 4 Interface**	MS4-I	21-1013000-01
	**Input/output module IO-M**	IO-M	21-1023000-01
	**Input/output module IO-M-P**	IO-M-P	21-1023001-01
	**Latching relay SSR-IO**	SSR-IO	21-1023004-01
	**ZE-B room electronics**	ZE-B	21-1023005-01

	Label	Type	Article no.
	**Spacer for ZE-B** for the installation of room electronics ZE-B in a case GH-ZE-B	ZUB-ZE-B	FC88116
	**Case room electronics ZE-B** for the installation of room electronics ZE-B	GH-ZE-B	FC88115
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**AP case AP-2**	APA-2	FC008992

3.10 Radio components

Radio components for triggering calls can be integrated in a call system via radio receivers connected to a diagnostic socket. Call triggering components are available in various design, e.g. as a combination radio transmitter, radio pull cord call switch, noise detector, etc.

Radio components can be broken down into two groups depending on their use:

- **Radio transmitters** are equipped with an element for triggering a call (push button, pull cord, audio sensors, etc.) and a transmission element that forwards the call via radio transmission.
- **Radio receivers** receive signals from the radio transmitters and forward a relevant notification to the call system.

System connection is implemented as outlined, depending on the model of the radio receiver, via a powered diagnostic socket or a diagnostic socket without power supply.

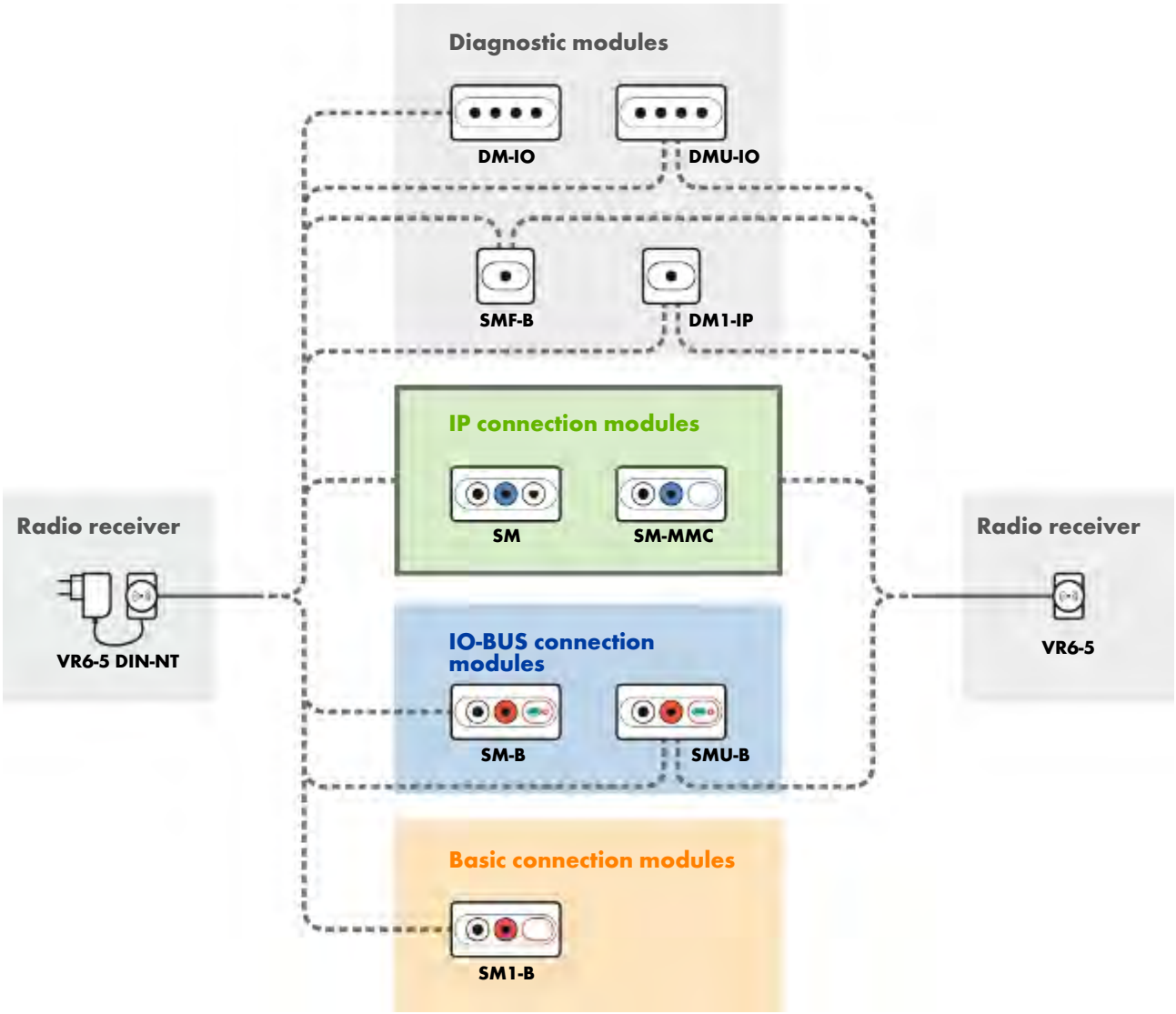


Illustration 9: Connection scheme radio components

Product overview

Features	VR6-5 DIN-NT	VR6-5	F-VMS-869	UF-ZS-869	F-RTS-869	F-ZS-869	F-PS-869	MEDITOUCH-869	F-MP-869	A01T-L869	B01T-L869	F-WLS-869	F-GSM-869	F-VMS-869
Frequency 869 MHz	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Integrated radio receiver	•	•												
Integrated radio transmitter			•	•	•	•	•	•	•	•	•	•	•	•
Battery operated			•	•	•	•	•	•	•	•	•	•		•
Power supply via power supply unit.	•												•	
Power supply via call system		•												

Radio receiver VR6-5 DIN-NT

No.: 21-2200000-01

Radio receivers for the connection of call releasing radio components to a call system. Coupling of up to 64 compatible devices with transmitters within 869,2125 MHz frequency field. Equipped with a three-coloured LED status indicator.

- Calls are released upon actuation of the connected transmitting devices
- Automatic call releasing upon disconnection from the call system (diagnostic disconnection call)
- Battery monitoring of connected transmitting devices with automatic warning message (on the radio receiver and in the call system)
- Verification of malfunctions of connected transmitting devices with automatic warning message (on the radio receiver and in the call system)
- Coupling with up to 64 compatible radio transmitters
- LED status indicator on the radio receiver (red, yellow, green)
- Power supply with galvanic isolation (2 × MOPP) via the supplied power supply unit

System compatibility:	Visocall IP
Operating voltage:	24 V VDC (power supply is supplied as standard)
Power consumption:	15 mA typ.
Interfaces:	
System connection:	1 × 5-pin DIN connector plug for the connection of a diagnostic socket of a SM, SM-MMC, SM-B, SMU-B, SM1-B, DM-IO, DMU-IO, DM1-IP or SMF-B
Radio receiver:	869,2125 MHz receiver for coupling up to 64 radio transmitters
Protection class:	IP 53
Cable:	
System connection:	10 cm
Power supply:	2 m
Dimensions:	66 × 46 × 18 mm (H×W×D)
Weight:	50 g (without power supply)

No.: 21-2200002-01

Radio receiver VR6-5

Radio receivers for the connection of call releasing radio components to a call system. Coupling of up to 64 compatible devices with transmitters within 869,2125 MHz frequency field. Equipped with a three-coloured LED status indicator.

- Calls are released upon actuation of the connected transmitting devices
- Automatic call releasing upon disconnection from the call system (diagnostic disconnection call)
- Battery monitoring of connected transmitting devices with automatic warning message (on the radio receiver and in the call system)
- Verification of malfunctions of connected transmitting devices with automatic warning message (on the radio receiver and in the call system)
- Coupling with up to 64 compatible radio transmitters
- LED status indicator on the radio receiver (red, yellow, green)
- Power is supplied via the call system

System compatibility:	Visocall IP
Operating voltage:	24 V DC
Power consumption:	15 mA typ.
Interfaces:	
System connection:	1 × 5-pin DIN connector plug for the connection of a diagnostic socket of a SM, SM-MMC, SMU-B, DMU-IO, DM1-IP or SMF-B
Radio receiver:	869,2125 MHz receiver for coupling up to 64 radio transmitters
Protection class:	IP 53
Cable:	
System connection:	10 cm
Dimensions:	66 × 46 × 18 mm (H×W×D)
Weight:	50 g

Radio combination transmitter F-VMPS-869

No.: 21-2200500-01

Mobile hand transmitter with push button for the manual releasing of calls. Accessories for attaching the transmitter to the wrist (24 cm wristband) or on the body (neck strap, stretch strap) is supplied as standard. A compatible radio receiver is required for the receipt of the radio signal (VR6-5 or VR6-5 DIN-NT). A green presence or cancel button is required in the relevant room for cancelling calls.

- The pressing of a smooth-running button releases a call (to the care staff) in the call system
- The status LED confirms radio transmission after pushing the button
- Calls are indicated by the call system at the relevant room
- Battery monitoring of connected transmitting devices with automatic warning message (on the radio receiver and in the call system)

System compatibility:	Visocall IP
Battery:	CR2032
Infaces/radio transmitters:	869.21 MHz transmitter for coupling with a radio receiver
Protection class:	IP 68
Push button:	Ø 34 mm
Dimensions:	46 × 43 × 10 mm (H×W×D)
Weight:	25 g

Radio components and accessories

	Label	Type	Article no.
	**Radio receiver VR6-5 DIN-NT** for connection to Visocall IP systems, 869 MHz, IP53, incl. power supply unit with safe isolation (2 × MOPP)	VR6-5 DIN-NT	21-2200000-01
	**Radio receiver VR6-5** for connection to Visocall IP call systems, 869 MHz, IP53, power supply via call system	VR6-5	21-2200002-01
	**Wall-mounted bracket V2 for VR6** Wall-mounted bracket V2 for VR6 for fastening a radio receiver (VR6-5 or VR6-5 DIN-NT)	VR6-WALL	FC017978
	**Radio combination transmitter F-VMPS-869** 869 MHz, IP68, incl. battery (CR2032), with 24 cm stretch wristband, neck strap, 2 × replacement clip D, stretch strap	F-VMPS-869	21-2200500-01
	**Inlay (replacement)** for radio combination transmitter, 1 pc.	F-VMS-INLAY	ZZH0799507
	Seal (replacement) for radio combination transmitter, 1 pc.	F-VMS-ED	ZZH0799508
	**Cord (replacement)** for radio combination transmitter, approx. 96 cm, protective automatic opening function under stress	F-VMS-KOR	FC007996
	**Stretch wristband (replacement)** for radio combination transmitter, 1 pc. length 24 cm, with clip fastener	F-VMS-BAND-24	FC007957-B
	**Stretch wristband (replacement)** for radio combination transmitter, 1 pc. length 27 cm, with clip fastener	F-VMS-BAND-27	FC007957-B_27
	**Clip D grey (replacement)** for radio combination transmitter, 50 pc.	F-VMS-BOLT	ZZH0799504
	**Repair kit (replacement)** for radio combination transmitter, 10 pcs. à 10 sets	F-VMS-ERS	ZZH0799505
	**Repair complete kit (replacement)** for radio combination transmitter, 13 pcs. à 5 sets	F-VMS-RKS	ZZH0799506
	**Universal radio pull cord call switch** Mith lanyard, 869 MHz, IP68, incl. battery (CR2032)	UF-ZS-869	FC017987
	**Radio call pushbutton** for wall mounting, 869 MHz, IP68, incl. battery (CR2032)	F-RTS-869	FC017986

	Label	Type	Article no.
	**Radio pull cord call switch** for wall mounting, 869 MHz, IP68, battery operated (CR2032)	F-ZS-869	FC017984
	Holder (replacement) for radio pull cord call switch, 5 pc.	F-ZS-ERS	FC017985
	**Radio pneumatic ball-type button** for wall mounting, 869 MHz, IP68, incl. battery (CR2032)	F-PS-869	FC017988
	**Replacement ball and hose (replacement)** for radio pneumatic ball-type button F-PS-869	F-PS-EK	FC017989
	**Large radio bellows pushbutton** incl. visual and haptic triggering confirmation, 869 MHz, IP44, incl. battery (CR2450)	MEDITOUCH-869	21-2200103-01
	**Wall-mounted bracket MediTouch** for the magnetic fastening of a MediTouch product	MEDITOUCH-WH	21-2200110-01
	**MediPad cushion transmitter** incl. acoustic reassurance, 869 MHz, IP30, incl. battery (CR2450)	F-MP-869	FC017983
	**Replacement parts MediPad (replacement)** consists of 1 × pillowcase, 2 × velcro straps, 4 × adhesive dots	F-MP-ES	ZZL10740
	**CareMat 1100 × 700 × 9 mm** for use on the floor, 869 MHz, IP54, incl. battery (CR2032)	A01T-L869	FC007948
	**CareMat 700 × 400 × 9 mm** for use on the floor, 869 MHz, IP54, incl. battery (CR2032)	B01T-L869	FC007949
	**Radio transmitter insert (replacement)** for installation in a wireless contact mat, 869 MHz, incl. Batterie (CR2032)	RTM-L869	21-2200550-01
	**VarioMent Plus wandering detection system** for installation on a door handle, 869 MHz, IP40, incl. battery (CR2032)	F-WLS-869	21-2200101-01
	**Radio universal transmitter** with open cable ends, 869 MHz, incl. battery (CR2032)	F-VMUS-869	21-2200100-01

3.11 Call devices for special applications

In accordance with VDE 0834-1:2016-06, call devices for special applications are: "*Call-releasing devices with special systems and/or sensors for call releasing, e.g. movement, air pressure, moisture, etc.; in particular for use on individual with restricted mobility*". Corresponding products are listed hereunder. All articles integrated in the Visocall IP call systems by radio transmission are listed together in a separate chapter.

System connection is implemented by means of cables via diagnostic adapter AD-DIA to a diagnostic socket.

Product overview

Features	SW-NT-OK	A01C	B01C	MEDITOUCH-Intellifix
Call releasing through sound	•			
Call releasing through pressure		•	•	•
System connection via AD-DIA	•	•	•	
System connection via the red Intellifix socket of a connection module				•
Power supply via power supply unit.	•			

Noise monitor SW-NT-OK

No.: FC008481

Noise monitors for raising alarms when detecting noise for example with bedridden patients.

A diagnostic adapter AD-DIA is required for connection to a Visocall IP call system. For set-up on an even surface. Flexibly use as no installation is required. Generally used in patient rooms.

- Adjustable noise level required for releasing calls
- Call button (red) for releasing a call manually
- LED for indication of released calls
- Night-time mode with increased sensitivity
- 1 metre cable with open ends
- The required power supply unit is supplied as standard

System compatibility:	Visocall IP
Operating voltage:	24 V DC
Power consumption:	30 mA
Interfaces/system connection:	Open cable ends (4 × 0.34 mm^2 for connection to a diagnostic socket via diagnostic adapter AD-DIA)
Protection class:	IP 44
Cable:	3 m, Ø 5.2 mm, white
Case:	Plastic, white
Dimensions:	108 × 110 × 50 mm (H×W×D)
Weight:	125 g

No.: FC007942

CareMat A01C

Pressure-sensitive mat for raising an alarm when trod on for example, usable with bedridden patients or as dementia safety system.

A diagnostic adapter AD-DIA is required for connection to a Visocall IP call system. Flexibly use as no installation is required. Generally used next to the beds or doors of patients.

- Flat design with bevelled edges to prevent tripping.
- Actuation via NO contact
- 1 metre cable with open ends
- Anti-slip and easy to clean surface
    - Suited for damp cleaning and disinfection

System compatibility:	Visocall IP, Visocall Plus
Electrical load capacity:	max. 50 mA at 48 V AC/DC
Interfaces/system connection:	Open cable ends (4 × 0.34 mm^2) for connection to a powered diagnostic socket via diagnostic adapter AD-DIA
Protection class:	IP 54
Chemical resistivity:	Water, body fluids, commercial disinfection agents, max. 70 Vol. % alcohol
Ambient temperature:	0 °C to +55 °C
Cable:	3 m, Ø 5.2 mm, white
Material:	Polyurethane
Surface:	Nubbed structure with bevelled edges
Weight load:	min. 10 kg for call releasing
Dimensions:	700 × 1100 × 9.5 mm (H×W×D), 14.5 mm deep at cable input
Weight:	8.2 kg

CareMat B01C

No.: FC007943

Pressure-sensitive mat for raising an alarm when trod on for example, usable with bedridden patients or as dementia safety system.

A diagnostic adapter AD-DIA is required for connection to a Visocall IP call system. Flexibly use as no installation is required. Generally used next to the beds or doors of patients.

- Flat design with bevelled edges to prevent tripping.
- Actuation via NO contact
- 1 metre cable with open ends
- Anti-slip and easy to clean surface
    - Suited for damp cleaning and disinfection

System compatibility:	Visocall IP, Visocall Plus
Electrical load capacity:	max. 50 mA at 48 V AC/DC
Interfaces/system connection:	Open cable ends (4 × 0.34 mm^2) for connection to a powered diagnostic socket via diagnostic adapter AD-DIA
Protection class:	IP 54
Chemical resistivity:	Water, body fluids, commercial disinfection agents, max. 70 Vol. % alcohol
Ambient temperature:	0 °C to +55 °C
Cable:	3 m, Ø 5.2 mm, white
Material:	Polyurethane
Surface:	Nubbed structure with bevelled edges
Weight load:	min. 10 kg for call releasing
Dimensions:	400 × 700 × 9.5 mm (H×W×D), 14.5 mm deep at cable input
Weight:	3.2 kg

Call devices for special applications and accessories

	Label	Type	Article no.
	**Noise monitor** for set-up on an even surface, with 3 m connection cable and open cable ends, incl. power supply unit	SW-NT-OK	FC008481
	**CareMat 1100 × 700 × 9 mm** for use on the floor, with 3 m connection cable and open cable ends	A01C	FC007942
	**CareMat 700 × 400 × 9 mm** for use on the floor, with 3 m of keys cable and open cable ends	B01C	FC007943
	**Diagnostic adapter AD-DIA** for the connection of external call transmitters, with 2.5 m connection cable and open cable ends	AD-DIA	21-1002000-01
	**External transmission adapter** for equipping a wired CareMat with radio transmission, 869 MHz, battery-operated (CR2032)	F-SAD-869	FC017998
	**Large bellows pushbutton Intellifix** for connection to a red Intellifix socket, incl. optical and haptic releasing confirmation	MEDITOUCH-INTELLI-FIX	21-2200106-01
	**Wall-mounted bracket MediTouch** for the magnetic fastening of a MediTouch product	MEDITOUCH-WH	21-2200110-01

3.12 Central system components

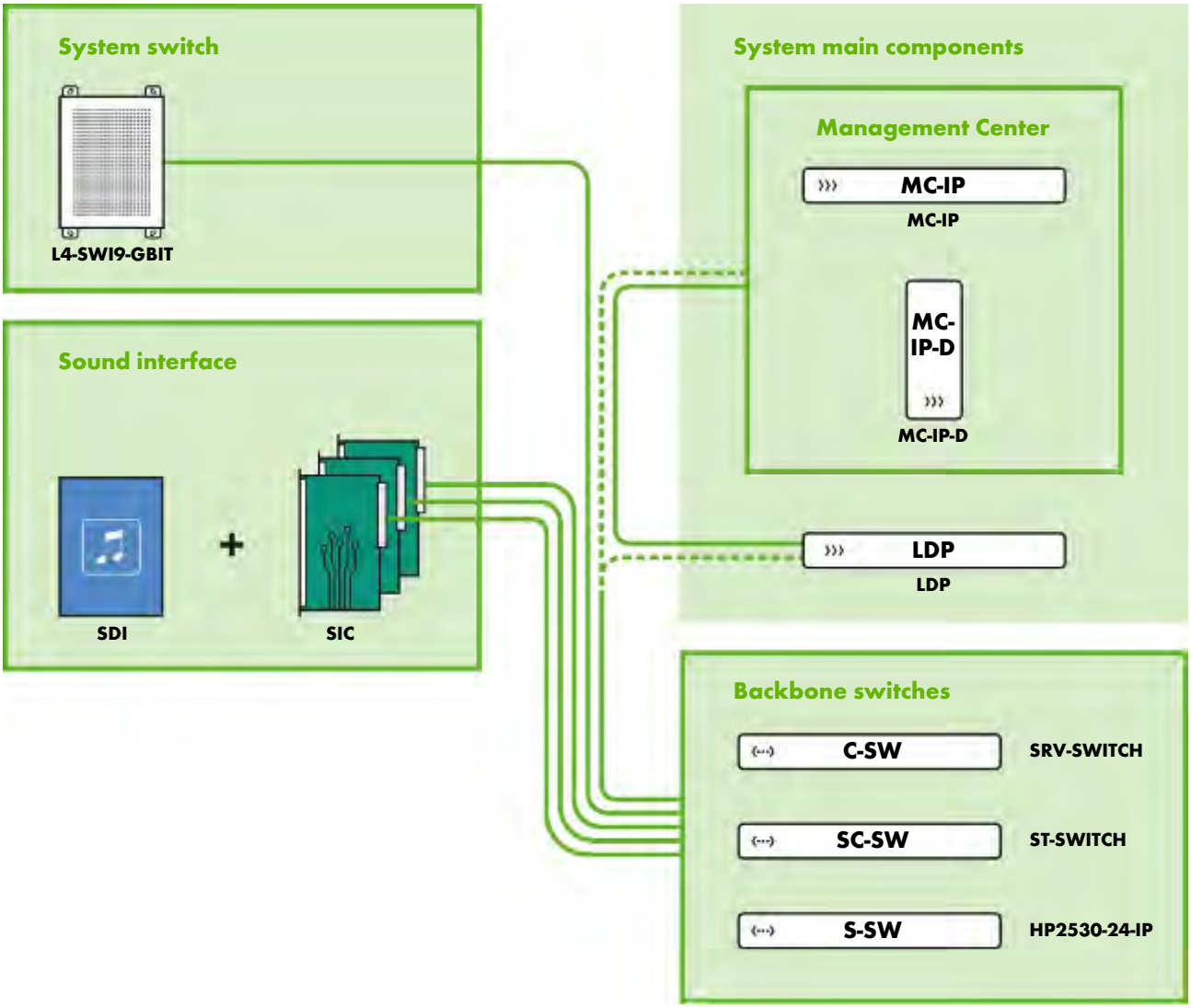


Illustration 10: Connection scheme central system components

No.: 21-1000402-01

System switch L4-SWI9-GBIT

Decentralised communication node of a Visocall IP call system for data exchange and power supply of the connected devices. Interface to the Management Center and additional system switches and their connected peripherals.

Four screws are required for surface mounting. Generally installed in suspended ceilings or rooms which may only be accessed by staff.

Starting with application kit 6.1, annular system switch cascades can be provided, achieving a hardware redundancy of the system.

NOTE

Supported from Application Kit 7

- Connection of up to eight IP periphery components (seven for system switch cascades)
- 2 × IO data bus rings for the connection of max. 126 components each. Consumption of the connected IO-BUS and basic components is limited to 500 mA per IO-BUS.
- Control tasks in rooms without communications terminal (max. 20 virtual rooms per system switch)
- Connection to backbone switches in a star, line or ring topology (max. six system switches per line or ring cascade)
- Together with the connected peripherals, this the smallest autonomous unit of a Visocall IP call system
  - In case of a network failure, the function of the call system will remain active within the autarchic units
  - In case of a network failure, the system switch cascades represented the groups in which the system switches communicate among each other
- Optimised for call systems with TV streaming via gigabit uplink and IGMP snooping

System compatibility:	Visocall IP
Operating voltage:	21 – 30 V DC
Power consumption:	137 mA at 3,3 W typ., max. 285 mA at 6 W (without connected devices)
Interfaces:	
Downlink port 8:	1 × RJ-45 socket for the connection of a communications terminal, the intercom terminal ICT-IP, the connection module SM-S, a control panel or for the cascading of system switches (100 base TX downlink with PoE)
Downlink port 1-7:	7 × RJ-45 sockets for the connection of communications terminals, intercom terminals ICT-IP, IP interfaces, IP connection modules, the diagnostic module DM1-IP or for cascading of system switches (100 base TX downlink with PoE and diagnostic inputs)
Uplink:	1 × RJ-45 socket for connection to the next higher switch (1000 base TX uplink without PoE with safe isolation 2 × MOPP)
24 V DC input:	1 × 6-pin Phoenix connector plug with screw-type terminals (3 × pos. and 3 × neg.) for wire diameters of up to 2.5 mm^2

IO BUS:	4 × RJ-45 sockets for forming two IO data bus rings (RS-485 interface with power supply)
24 V DC output:	1 × 4-pin Phoenix connector plug with screw-type terminals (2 × pos. and 2 × neg.) for wire diameters of up to 0.75 mm^2 For supply the components LM-B, SMU-B, DMU-IO, SMF-B and VTXT-IP with power, if these are connected to an IO-BUS of this system switch
Installation:	Surface mounting
Ambient temperature:	0 °C to +40 °C
Relative air humidity:	up to 95 % without condensation
Case:	Zinc magnesium
Dimensions:	227 × 160 × 35 mm (H×W×D)
Weight:	759 g

No.: FC010092

Core switch SRV-SWITCH

Backbone switch for the set-up of an IP network of large call systems with media streaming. The network of backbone switches serves to connect the Management Center with the individual system switches.

The core switch is used as top level switch and in some cases up to ward level. A corresponding installation kit is required for installation in a network cabinet (1 height unit).

- 4 × 1 gigabit uplink ports
- 20 × 1 gigabit downlink ports
- Including basic configuration for Visocall IP call systems
- Layer-3-switch with a routing table size of
  - 2,000 at IPv4
  - 1,000 at IPv6
- Supports hardware stacking (optional)
- Power supply unit can be redundant (optional)
- Uplink expendable to 4 × 10 gigabits (optional)

System compatibility:	Visocall IP
Operating voltage:	100 – 127 V AC or 200 – 240 V AC
Current intensification:	0.5 A or 0.3 A
Wattage:	34 – 49 W
Interfaces:	
Uplink:	4 × RJ-45 sockets 10/100/1000 Base-T or 100/1000 SFP
Downlink:	20 × RJ-45 soclets 10/100/1000 Base-T
AFR:	1.76 %
MTBF:	497 727 hrs
Installation:	19" network cabinet (1 height unit)
Ambient temperature:	0 °C to +55 °C
Relative air humidity:	15 to 95 % without condensation
Dimensions:	43.9 × 442.5 × 324.3 mm (H×W×D)
Weight:	4.45 kg

Ward/core switch ST-SWITCH

No.: 21-1000200-01

Backbone switch for the set-up of an IP network of call systems. The network of backbone switches serves to connect the Management Center with the individual system switches. The ward/core switch is applied at ward level. A corresponding installation kit is required for installation in a network cabinet (1 height unit).

- 24 × 1 gigabit ports
- Including basic configuration for Visocall IP call systems
- Layer-3-switch with a routing table size of
  - 2,000 at IPv4
  - 1,000 at IPv6

System compatibility:	Visocall IP
Operating voltage:	100 – 127 V AC or 200 – 240 V AC
Current intensification:	0.6 A or 0.4 A
Wattage:	19.5 – 29.3 W
Interfaces/ports:	24 × RJ-45 sockets 10/100/1000 Base-T and 4 × SFP
AFR:	0.88 %
MTBF:	995 455 hrs
Installation:	19" network cabinet (1 height unit)
Ambient temperature:	0 °C to +45 °C
Relative air humidity:	15 to 95 % without condensation
Dimensions:	43.9 × 442.5 × 200.2 mm (H×W×D)
Weight:	2.41 kg

No.: FC010093

Ward switch HP2530-24-IP

Backbone switch for the set-up of an IP network of small call systems without media streaming. The network of backbone switches serves to connect the Management Center with the individual system switches.

The ward switch is used as an economical alternative for smaller call systems which are limited to the basic scope. A corresponding installation kit is required for installation in a network cabinet (1 height unit).

- Including basic configuration for Visocall IP call systems
- 2 × 1 gigabit uplink ports
- 24 × fast ethernet downlink ports
- Layer-2-switch with up to 16 000 MAC address entries

System compatibility:	Visocall IP
Operating voltage:	100 – 127 V AC or 200 – 240 V AC
Current intensification:	0.3 A or 0.2 A
Wattage:	8.4 – 14.7 W
Interfaces:	
Ports:	2 × RJ-45 sockets 10/100/1000 Base-T and 2 × gigabit SFP
Downlink:	24 × RJ-45 sockets 10/100 Base-T
AFR:	0.61 %
MTBF:	1 436 066 hrs
Installation:	19" network cabinet (1 height unit)
Ambient temperature:	0 °C to +45 °C
Relative air humidity:	15 to 95 % without condensation
Dimensions:	44.5 × 442 × 246.4 mm (H×W×D)
Weight:	2.59 kg

Logical delivery point LDP

No.: 21-1000100-01

Component optimised for rack installation for breaking down a Visocall IP system into smaller partial segments. Connected between a Management Center and the remaining network structure, a LDP increases the reliability of the call system and facilitates its maintenance. If the function range of a Management Center is not required for a call system, a LDP can be used instead.

Installation in a network cabinet (1 height unit) is possible without accessories.

Starting from application kit 6.0, a Logical Delivery Point can be provided with hardware redundancy. For this, the system extension software licence MMC redundancy and a second logical delivery point are required.

NOTE

The supplied Visocall IP software corresponds to the most recently released version of the application kit at the time of supply. Licences for control panels and other system extensions as well as the following versions of the application kit can be purchased separately.

- In call systems with more than 2000 IP components the use of LPD alongside the Management Center is imperative
- Up to 1000 IP components can be connected behind every LPD
- The use of LDP increases the reliability of the call system and facilities its maintenance
- An LDP can be used instead of a Management Center if only the following Management Center functions are required:
  - Central import of updates
  - Automatic configuration of components when plugged in (e.g. exchange of a damaged patient terminal by the staff)

System compatibility:	Visocall IP
Operating voltage:	207 – 264 V AC
Power consumption:	max. 50 W
Power consumption:	max. 1.1 A (75 A input surge current:)
Interfaces:	
System connection:	1 × RJ-45 socket for the connection of the next higher logical unit, e.g. a Management Center (1000 base TX interface)
IP backbone:	4 × RJ-45 sockets for the connection of logically downstream switches, e.g. backbone switches (100 base TX interface)
Service interface:	1 × RJ-45 socket for configuration
Installation:	19" network cabinet (1 height unit)
Ambient temperature:	0 °C to +45 °C
Relative air humidity:	10 to 90 % without condensation
Dimensions:	
Case:	43.7 × 448.6 × 224 mm (H×W×D)
Faceplate	482,6 mm (W)
Weight:	3.1 kg

Management Center MC-IP

No.: 21-1000001-01

For the rack installation of optimised server incl. operating system and the software required for the operation of a Visocall IP call system. The server acts as the centralised node for all kinds of external systems and takes over key functions for the entire call system. The Management Center is connected with the system switches via the network of backbone switches.

Starting from application kit 6.0, a Management Center can be provided with hardware redundancy. For his, two Management Centers must be ordered in two different versions (master and slave). In addition, the system extension software licence MMC redundancy is required.

NOTE

The supplied Visocall IP software corresponds to the most recently released version of the application kit at the time of supply. Licences for control panels and other system extensions as well as the following versions of the application kit can be purchased separately.

A Management Center is required for the following application scenarios:

- Connection of external systems (e.g. alarm server, fire alarm system, dementia safety system, VDECT, telephone server,)
- Operation of multimedia services via the server structure of the call system
- Use of dongle protected software licences
- Central import of updates
- Automatic configuration of components when plugged in (e.g. exchange of a damaged patient terminal by the staff)
- Logging of events (event database)
- Operation of a ward and centralised control panel
- Use of the following system extensions
  - Audio Manager
  - MMC redundancy
  - Patient management
  - System Monitor
  - Telephone book function

System compatibility:	Visocall IP
Operating voltage:	100 – 240 V AC
Current intensification:	max. 4,5 A (100 V AC) or 2 A (240 V AC)
Interfaces/system connection:	2 × 1 Gbit/s RJ-45 sockets
Installation:	19" network cabinet (1 height unit)
Heat dissipation:	950.4 kJ/h
Ambient temperature:	+5 °C to +45 °C
Relative air humidity:	10 to 85 % without condensation
Dimensions:	
Case:	42.8 × 435.4 × 572 mm (H×W×D)
Faceplate:	482,6 mm (W)
Weight:	max. 13 kg (dependent on configuration)

Management Center Desktop MC-IP-D

No.: 21-1000000-01

Server incl. operating system optimised for rack installation and for the operation of the software required in a Visocall IP call system. The server acts as the centralised node for all kinds of external systems and takes over key functions for the entire call system. The Management Center is connected with the system switches via the network of backbone switches.

Starting from application kit 6.0, a Management Center can be provided with hardware redundancy. For his, two Management Centers must be ordered in two different versions (master and slave). In addition, the system extension software licence MMC redundancy is required.

NOTE

The supplied Visocall IP software corresponds to the most recently released version of the application kit at the time of supply. Licences for control panels and other system extensions as well as the following versions of the application kit can be purchased separately.

A Management Center is required for the following application scenarios:

- Connection of external systems (e.g. alarm server, fire alarm system, dementia safety system, VDECT, telephone server,)
- Operation of multimedia services via the server structure of the call system
- Use of dongle protected software licences
- Central import of updates
- Automatic configuration of components when plugged in (e.g. exchange of a damaged patient terminal by the staff)
- Logging of events (event database)
- Operation of a ward and centralised control panel
- Use of the following system extensions
  - Audio Manager
  - MMC redundancy
  - Patient management
  - System Monitor
  - Telephone book function

System compatibility:	Visocall IP
Operating voltage:	100 – 240 V AC
Current intensification:	max. 5 A (100 V AC) or 2.5 A (240 V AC)
Interfaces/system connection:	2 × 1 Gbit/s RJ-45 sockets
Heat dissipation:	831.6 kJ/h
Ambient temperature:	+5 °C to +45 °C
Relative air humidity:	10 to 85 % without condensation
Dimensions:	340 × 98 × 399 mm (H×W×D) without base
Weight:	max. 10 kg (dependent on configuration)

No.: 21-1001200-01

Sound Interface SDI

The module can be equipped with up to eight sound interface controllers SIC, to import audio signals into a call system. Enables the import of up to 16 audio signals into a call system.

For operation, at least one sound interface controller SIC is needed. The sound interface SDI consists of a metal cabinet with integrated module rack, power supply unit, fan, antenna amplifier and antenna splitter.

- Built-in sound interface controllers SIC are supplied via the integrated antenna amplifier and splitter
- Several sound interface SDI can be connected in call systems

System compatibility:	Visocall IP
Operating voltage:	207 – 253 V AC
Wattage:	40 W typ. (equipped with 8 SIC) max. 95 W (equipped with 8 SIC)
Interfaces:	
Aerial input:	1 × F antenna socket (recommended level 35 dBµV)
Aerial output:	16 × F antenna sockets
Installation:	Surface mounting
Ambient temperature:	0 °C to +40°C
Relative air humidity:	up to 95 % without condensation
Dimensions:	600 × 445 × 225 mm (H×W×D)

Sound Interface Controller SIC

No.: 21-1001201-01

Module for importing up to two audio signals into a call system. The audio inputs or the integrated FM radio tuner can serve as source.

For operation, the sound interface controller SIC must be built into a sound interface SDI. A network cable with RJ-45 plug is required for this. When using an input, a corresponding cable with RCA connector is required. An antenna cable is supplied as standard;

- Integrated FM tuner for receipt of up to two radio channels in a frequency range from 87.5 MHz to 108 MHz
- Two outputs transmit the audio signals of the configured radio channels
- Two inputs enable the import of analogue audio signals

System compatibility:	Visocall IP
Operating voltage:	20 – 30 V DC
Current intensification:	113 mA at 3 W typ. max. 333 mA at 24 V
Interfaces:	
System connection:	1 × RJ-45 socket for connection to a backbone switch (100 Base TX interface)
Aerial input:	1 × F antenna socket (recommended level 35 dBµV)
Audio input:	2 × RCA sockets for the connection of analogue audio sources (mono)
Audio output:	2 × 3.5 mm jack
Ambient temperature:	0 °C to +40°C
Relative air humidity:	up to 95 % without condensation
Aerial cable:	approx. 45 cm, BZT KU 11 888
Dimensions:	215 × 28 × 132 mm (H×W×D)
Weight:	233 g / 262 g (with aerial cable)

Centralised system components and accessories

	Label	Type	Article no.
	**System switch SWI9-GBIT**	L4-SWI9-GBIT	21-1000402-01
	**Case for SWI9** For the protection of a system switch against mechanical damage. For wall and ceiling mounting.	G-SWI9	DF010008
	**19“ installation rack for SWI9** incl. 16 x guide holders. For the installation in a 19“ network cabinet (6 height unit). With room for up to 8 system switches	SWI9-RACK	FC010009
	Guide holder installation rack, 1 pc. (replacement)	FH-MR	DF010009
	**Core switch**	SRV-SWITCH	FC010092
	**Ward/core switch ST-SWITCH**	ST-SWITCH	21-1000200-01
	**Ward switch**	HP2530-24-IP	FC010093
	**HPE Aruba Transceiver X121** 1000 Base-LX Modul singlemode	1G SFP LC LX	21-1000350-01
	**HPE Aruba Transceiver X121 1G** 100 Base-SX Modul multimode	1G SFP LC SX	DF010091-ALWL
	**Logical Delivery Point**	LDP	21-1000100-01
	**Management Center including operating system and software** Management Center	MC-IP	21-1000001-01
	**Management Center including operating system and software** Management Center Master	MC-IP-M	21-1000001-02
	**Management Center including operating system and software** Management Center Slave	MC-IP-S	21-1000001-03
	**Management Center Desktop including operating system and software** Management Center Desktop	MC-IP-D	21-1000000-01
	**Management Center Desktop including operating system and software** Management Center Desktop Master	MC-IP-D-M	21-1000000-02

	Label	Type	Article no.
	**Management Center Desktop including operating system and software** Management Center Desktop Slave	MC-IP-D-S	21-1000000-03
	**Sound Interface SDI**	SDI	21-1001200-01
	**Sound Interface Controller SIC**	SIC	21-1001201-01

3.13 Installation accessories

System cables and connector plugs

	Label	Type	Article no.
	**Crimping pliers for RJ-12**	CRIMP-IP-B	MM011001
	**Crimping pliers for RJ-45**	CRIMP-IP	MM010001
	**Data cable Visocall IP** for wiring IP components, F/UTP with drain wire, cat. 5e, 4 × 2 × 0.5, single-wire conductor design, halogen-free, metered	CAT5	MM001124
	**Data cable Visocall IP-IO** for wiring IO-BUS components U/UTP with drain wire, cat. 5e, 4 × 2 × 0.5, single-wire conductor design, 304.8 m	CAT5-IO	MM001125
	**Data cable Visocall IP-IO HF** for wiring IO-BUS components U/UTP wire, cat. 5, 4 × 2 × 0.5, single-wire conductor design, halogen-free, metered	CAT5-IO-HF	MM001135
	**RJ-12 connector plug** for flat cables AWG28/7 and AWG28/7-H	RJ12-IP-B	MM011008
	**RJ-45 Connector Cat5e** for data cable CAT5, CAT5-IO and CAT5-IO-HF	RJ45-IP	MM010008
	**Visocall IP basic flat cable** for wiring basic components, flat cable, 6 × AWG28/7, stranded conductor, metered	AWG28/7	MM001126
	Visocall IP basic flat cable HF for wiring basic components, flat cable, 6 × AWG28/7, stranded conductor, halogen-free, metered	AWG28/7-H	MM001128

Fitting materials

	Label	Type	Article no.
	**AP case AP-1**	APA-1	FC008991
	**AP case AP-2**	APA-2	FC008992
	Case frame	DR-KMT	FC010191
	**Cavity wall double switchbox**	H2	FC88013
	**Cavity wall switchbox**	H1	21-2400000-01
	**Cavity wall switchbox**	H-ICT-IP	FC88018
	**Countersunk double switchbox**	U2	FC88012
	**Countersunk switchbox**	U1	FC88010
	**Countersunk switchbox**	U-ICT-IP	FC88019
	Installation frame for countersunk mounting	RFID-GH-UPR	EI931618
	Installation frame for surface mounting	RFID-GH-APR	EI931617
	**Nurse call sign blue/white**	S LTR	FC38100
	Surface mounted frame	AP-KMT	FC010190
	Wall-mounted bracket for TXT	TXT-WH	EI931149

Replacement parts

	Label	Type	Article no.
	**Base for staff terminal (replacement)**	ST-TOUCH-STF	21-1002051-01
	**Clip D grey (replacement)** for radio combination transmitter, 50 pc.	F-VMS-BOLT	ZZH0799504
	Connection cable for Staff Terminal Cable lengths 2.8 m	ST-TOUCH-AK	FC81818
	Connection cables BT-B red (replacement) Cable lengths 2.8 m	AK-BT-B	EI931573-A
	Connection cables BT-B red (replacement) Cable lengths 3.5 m	AK5-BT-B	EI931573-A350
	Connection cables BT-B red (replacement) Cable lengths 35 cm	AK-BT-B	EI931573-A035
	Connection cables BT-B red (replacement) Cable lengths 5 m	AK5-BT-B	EI931573-A500
	Connection cables BT-B red (replacement) Cable lengths 50 cm	AK-BT-B	EI931573-A050
	Connection cables PAT blue (replacement) Cable lengths 2.8 m	AK-PAT-BL-280	EI931506-C
	Connection cables PAT blue (replacement) Cable lengths 35 cm	AK-PAT-BL-35	EI931506-C035
	Connection cables PAT blue (replacement) Cable lengths 5 m	AK-PAT-BL-500	EI931606-C500
	Connection cables PAT blue (replacement) Cable lengths 50 cm	AK-PAT-BL-50	EI931506-C050
	**Cord (replacement)** for radio combination transmitter, approx. 96 cm, protective automatic opening function under stress	F-VMS-KOR	FC007996
	Guide holder installation rack, 1 pc. (replacement)	FH-MR	DF010009
	Holder (replacement) for radio pull cord call switch, 5 pc.	F-ZS-ERS	FC017985
	**Inlay (replacement)** for radio combination transmitter, 1 pc.	F-VMS-INLAY	ZZH0799507

	Label	Type	Article no.
	PAT spiral connection cable (replacement) with 33 cm connection cable and RJ-45 connector plug	AK-PAT-BL-SPIRALE	21-1011250-01
	**Pneumatic handheld button (replacement)** with connection hose 2.2 m	PT-BI	EI931140
	**Pull cord call switch cord red incl. snap hook and grip, 10 pcs. (replacement)** Pull cord length 2.3 m	ZT-S2-E	21-1002300-01
	**Pull cord call switch cord red incl. snap hook and grip, 10 pcs. (replacement)** Pull cord length 4 m	ZT-S4-E	21-1002300-02
	**Pull cord call switch cord red incl. snap hook, 10 pcs. (replacement)** Pull cord length 2.3 m	ZT-S2	21-1002301-01
	**Radio transmitter insert (replacement)** for installation in a wireless contact mat, 869 MHz, incl. Batterie (CR2032)	RTM-L869	21-2200550-01
	**Receiver for Staff Terminal (replacement)** including connection cables	ST-TOUCH-HK	21-1002050-01
	**Repair complete kit (replacement)** for radio combination transmitter, 13 pcs. à 5 sets	F-VMS-RKS	ZZH0799506
	**Repair kit (replacement)** for radio combination transmitter, 10 pcs. à 10 sets	F-VMS-ERS	ZZH0799505
	**Replacement ball and hose (replacement)** for radio pneumatic ball-type button F-PS-869	F-PS-EK	FC017989
	**Replacement parts MediPad (replacement)** consists of 1 × pillowcase, 2 × velcro straps, 4 × adhesive dots	F-MP-ES	ZZL10740
	Seal (replacement) for radio combination transmitter, 1 pc.	F-VMS-ED	ZZH0799508
	Stretch wristband (replacement) for radio combination transmitter, 1 pc. length 24 cm, with clip fastener	F-VMS-BAND-24	FC007957-B
	Stretch wristband (replacement) for radio combination transmitter, 1 pc. length 27 cm, with clip fastener	F-VMS-BAND-27	FC007957-B_27

Accessories

	Label	Type	Article no.
	**Aluminium base for cradle K-PAT**	K-PAT-AS	21-1002200-01
	Blind cover, connection module, 10 pcs. For multimedia and diagnostic sockets, not suited for Intellifix sockets!	BLA-SM	FC010295
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN straight, jack angled	K-TVI-SAMSUNG	21-1002030-01
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN angled, jack angled	K-TVI-SAMSUNG-2	21-1002030-02
	**Cable for TVI-IP PHILIPS** Length 1.5 m, SCART connector, connection strip	K-TVI-PHILIPS	21-1002031-01
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 1.5 m	K-TVI-PHILIPS-2	21-1002031-02
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 3 m	K-TVI-PHILIPS-3	21-1002031-03
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 4 m	K-TVI-PHILIPS-4	21-1002031-04
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack bent, 1.5 m	K-TVI-PHILIPS-5	21-1002031-05
	**Cradle K-PAT**	K-PAT	FC010240
	**Diagnostic connection cable**	DSTK-W-VCIP	FC010350
	**External transmission adapter** for equipping a wired CareMat with radio transmission, 869 MHz, battery-operated (CR2032)	F-SAD-869	FC017998
	**Gooseneck** For mounting a K-PAT cradle to a standard rail	SH-GTS	ZZL10737
	**Headphones with headband** Cable lengths 2 m	KH	FC005205
	**Holding clip** For attaching a device cable to a bed sheet	HC-VC	FC12804

	Label	Type	Article no.
	Holding clip for connection cable For attaching several device cables to the bed frame	HB-VC	FC12805
	**Holding clip for PAT** For attaching a patient terminal or a BT-IP pear pushbutton to the side rail of a bed	HB-PAT	21-1002005-01
	**Holding clip for PAT** For attaching a device cable to a cable	HC-PAT	21-1002006-01
	**HPE Aruba Transceiver X121** 1000 Base-LX Modul singlemode	1G SFP LC LX	21-1000350-01
	**HPE Aruba Transceiver X121 1G** 100 Base-SX Modul multimode	1G SFP LC SX	DF010091-ALWL
	**Microphone USB** for Announcements and calls	MIC-USB	FC010074
	**Mifare card**	MFC4C-CD	21-1002500-01
	**Mifare Reader USB** for reading Mifare cards	MFR-3700	FC017330
	**Mounting bracket** For attaching a device cable to a cable	HKL VCP	FC006209
	**Mounting clip** For attaching a device cable to a rising aid	HL27-VC	FC12803--A
	**Mounting clip** For attaching a device cable to a rising aid	HL38-VC	FC12803--B
	**Network isolator EMOSAFE**	EMOSAFE EN-70E	21-1000500-01
	**Null modem cable** with two D-SUB DE9 connector plugs for the connection of two control panels via RS-232, cable lengths 2 m	DB9-2M	21-9031000-01
	**Null modem cable** with two D-SUB DE9 connector plugs for the connection of two control panels via RS-232, cable lengths 3 m	DB9-3M	21-9031001-01

	Label	Type	Article no.
	**VOIP receiver** for speech functions and announcements	VOIP-H	FC010071
	**Wall-mounted bracket MediTouch** for the magnetic fastening of a MediTouch product	MEDITOUCH-WH	21-2200110-01
	**Wall-mounted bracket V2 for VR6** Wall-mounted bracket V2 for VR6 for fastening a radio receiver (VR6-5 or VR6-5 DIN-NT)	VR6-WALL	FC017978

3.14 Software licences

	Label	Type	Article no.
	**Licence for the operation of a control panel** Software licence ward control panel	SWP-IP/SLS	FC008050
	**Licence for the operation of a control panel** Software licence ward control panel extension	SWP-IP/SLS-E	FC008052
	**Licence for the operation of a control panel** Software licence centralised control panel	SWP-IP/ZLS	FC010053
	**Licence for the operation of a control panel** Software licence centralised control panel extension	SWP-IP/ZLS-E	FC010054
	**Software licence Audio Manager**	SWP-IP/AM	FC010065
	**Software licence event database**	SWP-IP/EDB	FC010056
	**Software licence for telecommunications system**	SWP-IP/TK	FC010060
	**Software licence for using interfaces** Software licence ESPA interface	SWP-IP/ESPA	FC010045
	**Software licence for using interfaces** Software licence alarm server	SWP-IP/AS	FC010057
	**Software licence for using interfaces** Software licence fire alarm system	SWP-IP/BMZ	FC010059
	**Software licence for using interfaces** Software licence mobile telephone end devices	SWP-IP/MP	FC008042
	**Software licence for using interfaces** Software licence dementia protection system	SWP-IP/DESO	FC010058
	**Software licence for using interfaces** Softwarelizenz internet server	SWP-IP/WEB	FC010062
	**Software licence for using interfaces** Softwarelizenz OPC server	SWP-IP/OPC	FC010068

	Label	Type	Article no.
	**Software licence for using interfaces** Softwarelizenz KNX/EIB interface	SWP-IP/KNX	FC010069
	**Software licence for using interfaces** Softwarelizenz HL7 interface	SWP-IP/HL7	Upon request
	**Software licence MMC redundancy**	SWP-IP/MMC-R	FC010070
	**Software licence patient management**	SWP-IP/PV	FC010055
	**Software licence Secocare data**	SWP-IP/CD	FC010066
	**Software licence Secocare data extension**	SWP-IP/CD-E	FC010067
	**Software licence system monitor**	SWP-IP/MON	FC010063
	**Software licence telephone book function** for Staff Terminal	SWP-IP/PBF	FC010064
	**Visocall IP Application Kit V 7.0**	SWP-IP/AK-7.0	FC010040-M

4 TV sets

Supported Samsung and Philips TV sets can be connected to Visocall IP call systems as a system TV. Configured as a bed TV, TV sets can be controlled from a patient terminal (PAT or PAT-E). And configured as a room TV, TV sets can be controlled via several patient terminals (PAT or PAT-E). Sound it then outputted at the allocated patient terminals. The power supply and TV broadcast reception corresponds to that of standard TV sets.

System connection is implemented as outlined via a TV interface TVI-IP.

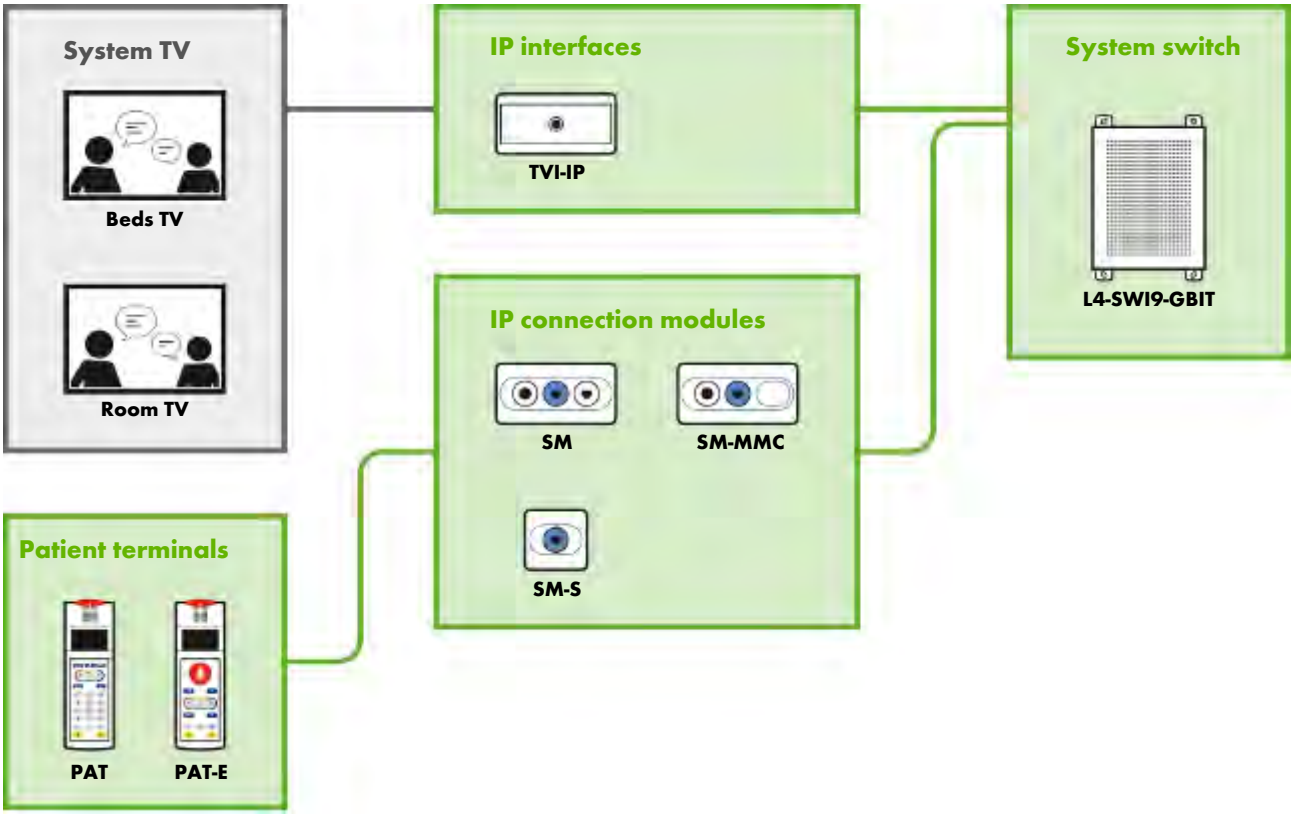


Illustration 11: Connection scheme TV sets

4.1 Philips TV sets

The following Philips TV sets can be integrated in Visocall IP call systems. The 19“ 19HFL5014W/12 set can be configured as a bed TV, all other models can be configured as room TV.

For control via a patient terminal, each TV must be connected to the call system via a TV interface TVI-IP. The power supply and TV broadcast reception corresponds to that of standard TV sets.

The 19“ 19HFL5014W/12 set is suited for wall and ceiling arm mounting, the room TVs are suited for wall-mounting using a compatible VESA mounting bracket.

Product overview

	19HFL5014W/12	**32HFL5014**	**43HFL5014**	**50HFL5014**
	Beds TV	Room TV	Room TV	Room TV
Diagonal screen size	19"	32"	43"	50"
Backlight	LED		LED	
Screen resolution in pixel	1366 × 768	1920 × 1080	1920 × 1080	1920 × 1080
Terrestrial TV tuner	DVB-T/T2/C		DVB-T2	
Cable TV tuner	-		DVB-C	
Analogue TV tuner	•	•	•	•
IP-TV	•	•	•	•
Operating voltage VAC	100 – 240 V AC		220 – 240 V	
Power supply with EU energy label	18 W	29 W	48 W	49 W
VESA wall mounting in mm	75 × 75	100 × 100	200 × 200	200 × 200
VESA screw size	M4	M6	M6	M6
Weight with base	-	4.7 kg	7.3 kg	11.6 kg
Weight without base	3.8 kg	4.6 kg	7.2 kg	11.3 kg

Philips TV sets and accessories

	Label	Type	Article no.
	**Philips Media Suite TV 32"** VESA 100 × 100 mm, 4.7 kg/4.6 kg	32HFL5014	21-2010002-01
	**Philips Media Suite TV 43"** VESA 200 × 200 mm, 7.3 kg/7.2 kg	43HFL5014	21-2010003-01
	**Philips Media Suite TV 50"** VESA 200 × 200 mm, 11.6 kg/11.3 kg	50HFL5014	21-2010004-01
	**TV mounting bracket WALL 1120** Flat TV mounting bracket with 1 pivot, VESA 100 × 100 mm, VESA 200 × 200 mm, pivotable by max. – 30°/+30°, inclinable by max. 10°, load capacity max. 15 kg	WALL-1120	FC007113
	**TV mounting bracket WALL 2225** TV mounting bracket with 2 pivots, VESA 100 × 100mm, VESA 200 × 200mm, pivotable by max. -60°/+60°, inclinable by max. 20°, load capacity max. 20 kg	WALL-2225B	FC007115
	**Philips beds TV 19"** LED HD TV with 47 cm diagonal screen size	19HFL5014W/12	21-2010050-01
	**Wall-mounted arm FX500 Schrack** incl. wall console FX850 for Philips beds TV	FX500-FX850	21-2015000-01
	**Wall console FX850** for wall-mounted arm FX500 (replacement)	FX850	21-2015001-01
	**Cover hinge** for wall-mounted arm FX500 (replacement)	FX500 CV	21-2010103-01
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack bent, 1.5 m	K-TVI-PHILIPS-5	21-1002031-05
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 1.5 m	K-TVI-PHILIPS-2	21-1002031-02
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 3 m	K-TVI-PHILIPS-3	21-1002031-03
	**Cable for TVI-IP PHILIPS** RJ-45, DIN, jack straight, 4 m	K-TVI-PHILIPS-4	21-1002031-04
	**TV interface TVI-IP**	TVI-IP	21-1013001-01

	Label	Type	Article no.
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**AP case AP-2**	APA-2	FC008992

4.2 Samsung TV sets

The following Samsung TV sets can be integrated in Visocall IP call systems and configured as room TV.

For control via a patient terminal, each TV must be connected to the call system via a TV interface TVI-IP. The power supply and TV broadcast reception corresponds to that of standard TV sets. Suited for wall-mounting with compatible VESA holder.

Product overview

Features	HG32EE690DB	HG43EE690DB	HG32EE590FK	HG40EE590SK	HG32EF690DB	HG43EF690DB
Diagonal screen size	32"	43"	32"	40"	32"	43"
Backlight	LED					
Screen resolution in pixel	1920 × 1080	1920 × 1080	1366 × 768	1920 × 1080	1920 × 1080	1920 × 1080
Terrestrial TV tuner	DVB-T2					
Cable TV tuner	DVB-C					
Satellite TV tuner	DVB-S2					
Analogue TV tuner	•	•	•	•	•	•
HbbTV	•	•	•	•	HbbTV 1.5	HbbTV 1.5
Operating voltage VAC	220 – 240 V					
Power in operation	85 W	95 W	60 W	90 W	85 W	95 W
VESA wall mounting in mm	100 × 100	200 × 200	100 × 100	200 × 200	100 × 100	200 × 200
VESA screw size	M4	M8	M4	M8	M8	M8
Weight with base	7.1 kg	12.3 kg	5.8 kg	10.6 kg	7.3 kg	12.7 kg
Weight without base	5.5 kg	9.4 kg	4.3 kg	7.7 kg	5.7 kg	9.7 kg

Samsung TV sets and accessories

	Label	Type	Article no.
	**Samsung Hotel TV 32" 32HE690** VESA 200 × 200 mm, 7.1 kg/5.5 kg	HG32EE690DB	21-2020000-01
	**Samsung Hotel TV 43" 43HE690** VESA 200 × 200 mm, 12.3 kg/9.4 kg	HG43EE690DB	21-2020001-01
	**Samsung Hotel TV 32" 32HE590F** VESA 100 × 100 mm, 5.8 kg/4.3 kg	HG32EE590FK	21-2020002-01
	**Samsung Hotel TV 40" 40HE590** VESA 200 × 200 mm, 10.6 kg/7.7 kg	HG40EE590SK	21-2020003-01
	**Samsung Hotel TV 32" 32HF690** VESA 100 × 100 mm, 7.3 kg/5.7 kg	HG32EF690DB	21-2020004-01
	**Samsung Hotel TV 43" 43HF690** VESA 100 × 100 mm, 12.7 kg/9.7 kg	HG43EF690DB	21-2020005-01
	**TV mounting bracket WALL 1120** Flat TV mounting bracket with 1 pivot, VESA 100 × 100 mm, VESA 200 × 200 mm, pivotable by max. –30°/+30°, inclinable by max. 10°, load capacity max. 15 kg	WALL-1120	FC007113
	**TV mounting bracket WALL 2225** TV mounting bracket with 2 pivots, VESA 100 × 100mm, VESA 200 × 200mm, pivotable by max. -60°/+60°, inclinable by max. 20°, load capacity max. 20 kg	WALL-2225B	FC007115
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN straight, jack angled	K-TVI-SAMSUNG	21-1002030-01
	**Cable for TVI-IP (SAMSUNG)** Length 1.5 m, RJ-12 straight, DIN angled, jack angled	K-TVI-SAMSUNG-2	21-1002030-02
	**TV interface TVI-IP**	TVI-IP	21-1013001-01
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013

	Label	Type	Article no.
	**AP case AP-2**	APA-2	FC008992

5 Multimedia devices

Multimedia terminals not only make watching TV from patients bed simpler but also offer patients and clinic staff precisely the assistance they need around the clock: from TV, radio and Internet over medication assistance to menu orders and interactive patient surveys.

No.: 21-2000111-01

Multimedia Tablet 13SF

Compact patient multimedia tablet for TV, radio and Internet directly from the patient bed. Operation is simple and intuitive via the touchscreen and function button. The sound can either be played over the integrated loudspeakers or headphones. Its flush glass front enables the wipe disinfection of the complete multimedia tablet, with an extremely positive impact on hygiene.

The device is mounted to a stable, flexibly adjustable wall-mounted arm or a bedside cabinet pivot arm (not supplied as standard).

- LCD touch screen with 13.3“ diagonal screen size
- Brightness sensor for ambient light
- Capacitive operating keypad with optical and/or acoustic acknowledgement for controlling the basic functions, e.g. programme selection, volume, room light
- IP TV/radio via LAN interface
- LED reading light
- Centralised configuration option

Screen:	
Diagonal width/format:	33.78 cm (13.3“)/16:9
Resolution:	1920 × 1080 px
Light strength:	300 cd/m²
Viewing angle:	± 89°
Processor:	1,6 GHz Quad-core ARM® Cortex™ 53 operation without fan, passive cooling
Operating system:	AOSP (Android Open Source Project)
TV and radio:	DVB-IPTV (Multicast UDP), HLS (Unicast TCP)
Sound:	Integrated loudspeaker
Video formats:	H.264, H.265, MPEG1, MPEG2, MPEG4
Audio formats:	Dolby® Digital™, Dolby® Digital Plus™, MP2, MP3, AAC
Ethernet:	10/100 Mbit
WLAN:	WLAN IEEE 802.11ac, 2×2 MIMO
Bluetooth:	Bluetooth 4.2
Connections:	1 × RJ-45 socket (LAN IN) 1 × USB 3.0 1 × 3.5 mm jack for headphones
Power supply:	44-57VDC IEEE 802,3af/at (PoE/PoE+)
Power consumption:	max. 25.5 W (PoE+ operation) max. 12.95 W (PoE+ operation)
Case:	white, ABS/PC
Display frame:	black
Front glass:	Dragontrail™ Glass
Ambient temperature:	+5 °C to +40 °C without condensation
Dimensions:	230 × 340 × 33 mm (H×W×D)
Weight:	approx. 1.3 kg

Multimedia Tablet 16SF

No.: 21-2000121-01

Compact patient multimedia tablet for TV, radio and Internet directly from the patient bed. Operation is simple and intuitive via the touchscreen and function button. The sound can either be played over the integrated loudspeakers or headphones. Its flush glass front enables the wipe disinfection of the complete multimedia tablet, with an extremely positive impact on hygiene.

The device is mounted to a stable, flexibly adjustable wall-mounted arm or a bedside cabinet pivot arm (not supplied as standard).

- LCD touch screen with 15.6“ diagonal screen size
- Brightness sensor for ambient light
- Capacitive operating keypad with optical and/or acoustic acknowledgement for controlling the basic functions, e.g. programme selection, volume, room light
- IP TV/radio via LAN interface
- LED reading light
- Centralised configuration option

Screen:	
Diagonal width/format:	39.6 cm (15.6“)/16:9
Resolution:	1920 × 1080 px
Light strength:	300 cd/m²
Viewing angle:	± 89°
Processor:	1,6 GHz Quad-core ARM® Cortex™ 53 operation without fan, passive cooling
Operating system:	AOSP (Android Open Source Project)
TV and radio:	DVB-IPTV (Multicast UDP), HLS (Unicast TCP)
Sound:	Integrated loudspeaker
Video formats:	H.264, H.265, MPEG1, MPEG2, MPEG4
Audio formats:	Dolby® Digital™, Dolby® Digital Plus™, MP2, MP3, AAC
Ethernet:	10/100 Mbit
WLAN:	WLAN IEEE 802.11ac, 2×2 MIMO
Bluetooth:	Bluetooth 4.2
Connections:	1 × RJ-45 socket (LAN IN) 1 × USB 3.0 1 × 3.5 mm jack for headphones
Power supply:	44-57VDC IEEE 802,3af/at (PoE/PoE+)
Power consumption:	max. 25.5 W (PoE+ operation) max. 12.95 W (PoE+ operation)
Case:	white, ABS/PC
Display frame:	black
Front glass:	Dragontrail™ Glass
Ambient temperature:	+5 °C to +40 °C without condensation
Dimensions:	230 × 340 × 33 mm (H×W×D)
Weight:	approx. 1.54 kg

Bedside cabinet pivot arm S-IP-1013

No.: 21-2005010-01

Height adjustable bedside cabinet pivot arm for attaching the multimedia tablets 13SF incl. connection cable.

Terminal weight:	max. 1.3 kg
Spring force:	mechanical
Inclination range:	-18°/+38°
Inclination height:	ca. -100/+200 mm
Insertion pin height:	225 mm
Connection cables:	CAT.6
Cabling:	EIA/TIA 568 B
Cable length:	3.7 m
Cable colour:	white
Material:	metal
Colour:	white, similar to RAL 9010
Dimensions:	550 × 370 × 100 mm (H×W×D)
Weight:	approx. 2.5 kg

Bedside cabinet pivot arm S-IP-16

No.: 21-2005012-01

Height adjustable bedside cabinet pivot arm for attaching the multimedia tablets 16SF incl. connection cable.

Terminal weight:	max. 1.6 kg
Spring force:	mechanical
Inclination range:	-18°/+38°
Inclination height:	ca. -100/+200 mm
Insertion pin height:	225 mm
Connection cables:	CAT.6
Cabling:	EIA/TIA 568 B
Cable length:	3.7 m
Cable colour:	white
Material:	metal
Colour:	white, similar to RAL 9010
Dimensions:	550 × 370 × 100 mm (H×W×D)
Weight:	approx. 2.5 kg

Wall-mounted arm type 500 RJ-45– IP

No.: 21-2005401-01-01

Wall-mounted arm for attaching a multimedia tablet

Bearing load:	0.5 – 2.44 kg
Connection cables:	CAT.5, integrated on the wall side: RJ-45 connector plug on the device side: RJ-45 connector plug
Cabling:	Inside the wall-mounted arm through the wall bracket to the RJ-45 connection socket.
Monitor mount:	VESA 75
Material:	metal
Colour:	white, similar to RAL 9010
Dimensions:	Extension total: 1859 mm Spring-loaded arm: 1175 mm Boom: 684 mm
Weight:	approx. 9 kg

Wall bracket type 500

No.: 21-2005500-01-01

Wall bracket for wall-mounted arm Type 500

Material:	Metal (cover ABS)
Colour:	white, similar to RAL 9010
Dimensions:	312 × 208 × 55 mm (H×W×D)
Weight:	approx. 4 kg

Connection circuit board 500 - 20W1

No.: 21-2005501-01-02

Connection circuit board for the electronical connection of the wall-mounted arm 500 RJ-45 - IP

Connections:	Cage Clamp technology, 0.2 – 1.5 mm² (AWG 24 – 16), single-wire conductor and wire-end sleeves directly pluggable
Fuse:	1 A (pluggable)
Installation:	inside the wall-mounted arm
Dimensions:	96 × 58 × 1.6 mm (H×W×D)
Weight:	90 g

Connect server MMNCS

No.: 21-2000001-01

Fully pre-installed and ready-to-operate server with hardware and software for the centralised distribution of configurations to the mobile devices.

Hardware:	19" mini server, 1 HU, short Intel Atom 2 × 1.86 GHz 4 GB RAM, 40 GB SSD
Software:	Linux OS, BEWATEC Connect (VM), DHCP issuing of addresses
Connections:	2 × RJ-45 gigabit ports (LAN) 8 × USB socket 2.0 2 × USB socket 3.0 1 × HDMI 1 × VGA 1 × PS/2
Operating voltage:	230 V AC/50 Hz
Power consumption:	max. 200 W
Dimensions:	44 × 483 × 250 mm (H×W×D)
Weight:	approx. 3.5 kg

5.1 Multimedia devices and accessories

	Label	Type	Article no.
	**Multimedia Tablet 13SF** including operating system and reading light	T13SF	21-2000111-01
	**Multimedia Tablet 16SF** including operating system and reading light	T16SF	21-2000121-01
	**Bedside cabinet pivot arm S-IP-1013** incl. cable for multimedia tablets 13SF	NTSA-IP-MP10/13-DA	21-2005010-01
	**Bedside cabinet pivot arm S-IP-16** incl. cable for multimedia tablets 16SF	NTSA-IP-MP16-DA	21-2005012-01
	**Bedside cabinet mounting arm GFK** for attaching bedside cabinet pivot arms S-IP	NTH-GFK	FC009521
	**Wall-mounted arm type 500 RJ-45- IP** Wall-mounted arm for attaching a multimedia tablet	WA-500-RJ45-IP	21-2005401-01-01
	**Wall bracket type 500** Wall bracket for wall-mounted arm type 500	WL-500	21-2005500-01-01
	**Connection circuit board 500 - 20W1** Connection circuit board for the electronical connection of the wall-mounted arm 500 RJ-45 - IP	CM-20W1-500	21-2005501-01-02
	**Connect server MMNCS** for the centralised distribution of the configurations to the mobile devices	MMNCS	21-2000001-01

6 Visoopt emergency call systems

The emergency call system Visoopt enables individuals requiring assistance to send an alarm to a centralised unit within the building or building complex. The system can be used in many areas, for instance as

- emergency call system in hotel bathrooms
- emergency call system for disabled toilets in public buildings, schools, etc.
- call systems for changing room cubicles in out-patient departments, doctors surgeries etc.

Visoopt corresponds to field of application A in accordance with VDE0834/Part 1; i.e. it constantly monitors the individual call and transmission paths and can automatically detect and indicate possible faults.

6.1 Product overview

Features	VO-BT	VO-ZT	VO-BT-L	VO-ZT-L	RT	ZTB	AT	ZSL1-SU
Basis terminal	•		•					
Additional terminal		•		•				
Cancel button(s)	•	•					•	
Call button					•			
Pull cord (function call button)						•		
Use in wet rooms						•		
Optical call indication	•	•	•	•	•	•		•
Acoustic call indication	•		•					•

Visoopt basis terminal VO-BT

No.: FC008950

Basis terminal for the control of Visoopt emergency call systems, for the acoustic and optical indication of calls and faults as well as for cancelling calls.

A VDE-compliant power supply unit must be used for the power supply (e.g. 10 A power supply CP10.241-M1). In order to keep the system operational in case of voltage fluctuations or power failures, an additional UPS can be connected (e.g. control unit UB20.241 with battery module).

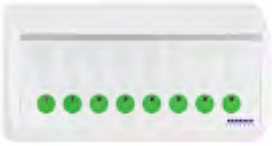
For an installation with conductor cross sections of 0.6 mm^2 to 0.8 mm^2 a DC circuit breaker C, 3 A must be used; for a conductor cross section of 1.5 mm^2 a DC circuit breaker C, 10 A must be used.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. The device is installed at a centralised unit, to which all calls are transmitted.

- Germ inhibiting membrane keypad for the following buttons, status LED and one label field each:
  - 4 × buttons (green) with status LED (per call channel)
  - 1 × button (yellow) for the deactivation of acoustic notifications
  - 1 × LED (green) for the indication of the proper operation
  - 1 × LED (orange) for the indication of faults
- Four integrated call channels for the connection of call, pull cord call switches and cancel pushbuttons as well as overdoor lights
  - Extendible to up to 124 call channels (per basis terminal max. 15 additional terminals à 8 channels)
- Acoustic signal for active calls and in the event of faults
  - Three frequencies can be selected (800, 1000 and 1333 Hz)
- In case of a malfunction of the emergency call system, active calls will be saved and displayed again when the system resumes operation
- One fault relay for picking up the fault status for external devices
- One call relay for picking up the fault status for external devices
- Connection of two basic terminals enables the parallel indication and operation of an additional unit (both basic terminals require the same number of additional terminals)

System compatibility:	Visoopt
Operating voltage:	20.4 – 26.4 V DC
Power consumption:	53 mA at 24 V DC typ.
Interfaces:	NC or NO contact, plug-in terminals,
Fault relay:	max. 30 V/1 A
Call relay:	max. 30 V/1 A
Installation:	Surface mounted, countersunk or in a service duct
Case:	Plastic ABS, white RAL 9016
Dimensions:	160 × 82 × 27 mm (H×W×D)
Weight:	170 g

Visoopt additional terminal VO-ZT



No.: FC008951

Additional terminal for extending a Visoopt emergency call system by eight call channels. With optical indication and the option to cancel the calls on these channels at the terminal.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. The device is installed at the connected basis terminal.

- Germ inhibiting membrane keypad for the following buttons, status LED and one label field each:
  - Eight cancel buttons (green) with status LED (per call channel)
- Eight integrated call channels for the connection of call, pull cord call switches and cancel pushbuttons as well as overdoor lights
  - Extendible to up to 124 call channels (per basis terminal max. 15 additional terminals à 8 channels)

System compatibility:	Visoopt
Operating voltage:	20.4 – 26.4 V DC
Power consumption:	40 mA at 24 V DC typ.
Installation:	Surface mounted, countersunk or in a service duct
Case:	Plastic ABS, white RAL 9016
Dimensions:	160 × 82 × 27 mm (H×W×D)
Weight:	157 g

No.: FC008952

Visoopt basis terminal VO-BT- L

Basis terminal for the control of Visoopt emergency call systems as well as for the acoustic and optical indication of calls and faults as well as for cancelling calls. A cancel pushbutton is required for cancelling calls.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. The device is installed at a centralised unit, to which all calls are transmitted.

NOTE

To prevent the remote cancelling of calls, this terminal is not equipped with cancel button. To cancel calls, a specific cancel button must be provided in each room in which the calls can be released.

- Germ inhibiting membrane keypad for the following buttons, status LED and one label field each:
  - 4 × status LED for the indication of calls (per call channel)
  - 1 × button (yellow) for the deactivation of acoustic notifications
  - 1 × LED (green) for the indication of the proper operation
  - 1 × LED (orange) for the indication of faults
- Four integrated call channels for the connection of call, pull cord call switches and cancel pushbuttons as well as overdoor lights
  - Extendible to up to 124 call channels (per basis terminal max. 15 additional terminals à 8 channels)
- Acoustic signal for active calls and in the event of faults
  - Three frequencies can be selected (800, 1000 and 1333 Hz)
- In case of a malfunction of the emergency call system, active calls will be saved and displayed again when the system resumes operation
- One fault relay for picking up the fault status for external devices
- One call relay for picking up the fault status for external devices
- Connection of two basic terminals enables the parallel indication and operation of an additional unit (both basic terminals require the same number of additional terminals)

System compatibility:	Visoopt
Operating voltage:	20.4 – 26.4 V DC
Power consumption:	53 mA at 24 V DC typ.
Interfaces:	NC or NO contact, plug-in terminals,
Fault relay:	max. 30 V/1 A
Call relay:	max. 30 V/1 A
Installation:	Surface mounted, countersunk or in a service duct
Case:	Plastic ABS, white RAL 9016
Dimensions:	160 × 82 × 27 mm (H×W×D)
Weight:	170 g

Visoopt additional terminal VO-ZT- L

No.: FC008953

Additional terminal for extending a Visoopt emergency call system by eight call channels. With optical indication for these channels. A cancel pushbutton is required for cancelling calls.

For surface mounting, the corresponding APA-2 surface-mounted housing is required; for countersunk mounting, a double connection box installed in the wall must be provided for. The device is installed at the connected basis terminal.

- Germ inhibiting membrane keypad for the following buttons, status LED and one label field each:
  - Eight status LED for the indication of calls (per call channel)
- Eight integrated call channels for the connection of call, pull cord call switches and cancel pushbuttons as well as overdoor lights
  - Extendible to up to 124 call channels (per basis terminal max. 15 additional terminals à 8 channels)

System compatibility:	Visoopt
Operating voltage:	20.4 – 26.4 V DC
Power consumption:	40 mA at 24 V DC typ.
Installation:	Surface mounted, countersunk or in a service duct
Case:	Plastic ABS, white RAL 9016
Dimensions:	160 × 82 × 27 mm (H×W×D)
Weight:	157 g

6.2 Visoopt emergency call systems and accessories

	Label	Type	Article no.
	**Visoopt basis terminal VO-BT**	VO-BT	FC008950
	**Visoopt additional terminal VO-ZT**	VO-ZT	FC008951
	**Visoopt basis terminal VO-BT- L**	VO-BT-L	FC008952
	**Visoopt additional terminal VO-ZT- L**	VO-ZT-L	FC008953
	**Call pushbutton RT** with locating and reassurance light, germ inhibiting membrane keypad	RT	FC008400
	**Coated pull cord call switch ZTB** with locating and reassurance light, germ inhibiting membrane keypad, intended for use in wet rooms	ZTB	FC008411
	**Cancel pushbutton AT** with locating and reassurance light, germ inhibiting membrane keypad	AT	FC008430
	**Overdoor light ZSL1-SU** with red LEDs and sound generator with the optical and acoustic indication of calls	ZSL1-SU	FD805001
	Surface mounted frame for SL lamps required for the installation of the overdoor lights ZSL1-SU	AP-ZSL	FD805000
	**Countersunk double switchbox**	U2	FC88012
	**Cavity wall double switchbox**	H2	FC88013
	**AP case AP-2**	APA-2	FC008992
	**Countersunk switchbox**	U1	FC88010
	**Cavity wall switchbox**	H1	21-2400000-01

	Label	Type	Article no.
	**AP case AP-1**	APA-1	FC008991

7 Securwatch real-time localisation

7.1 Networked systems

Reader

No.: 21-9200000-01

Long-range RF reader SLR_RFREADER_V1

With its bidirectional radio frequency antenna, the long range RF reader receives information from sensor modules, patient and staff transponders and transmits these to a server via a TCP/IP interface.

Suited for wall and ceiling mounting. Generally installed so that a comprehensive radio coverage of the supervised area is provided for. The overlapping of the RF fields of individual readers is permissible.

For surface mounting, the mounting kit SLK_MOUNTKIT_V1 as well as flat-head screws with a diameter of max. 4 mm (head diameter max. 7 mm) are required.

- Maximum radius of radio coverage
  - Inside up to 40 metres (depending on the building)
  - Outside up to 500 metres (visual range)
- Power supply via PoE Plus or external power supply unit
- A vandalism sensor reports the opening of the case
- Multi-colour LED for status indication
- Simple familiarisation and management in the system with RFID
- Device monitoring in 30 seconds intervals

System compatibility:	Securwatch SmartLiberty
Operating voltage:	24 V DC
Wattage:	3 W at 24 V DC
Interfaces:	
System connection:	1 × RJ-45 socket for connection to the network (Ethernet 10/100, with simultaneous power supply PoE Plus in accordance with IEEE 802.3at)
Long-range technology:	HF 868 MHz, bidirectional
RFID aerial:	13.56 MHz, passive RFID (ISO 15693 ICODE SLI R/W)
Installation:	Surface mounting
Protection class:	IP 40 (expendable to IP 65 with the retrofit kit)
Ambient temperature:	-20 °C to +60 °C
Relative air humidity:	up to 95 % without condensation
Case:	Polycarbonate, halogen-free, white
Dimensions:	195 × 195 × 37 mm (H×W×D)
Weight:	390 g

Geolocation marker PIR, LF, IR SLM_MARKER_V1

No.: 21-9200004-01

The geolocation marker enables the tracking of patient and staff transponders and works with a combination of infrared and low frequency signals.

Suitable for wall mounting. Installed at specific locations, generally in the area of the door. The overlapping of the RF fields of individual markers should be avoided.

For surface mounting, the mounting kit SLK_MOUNTKIT_V1 as well as flat-head screws with a diameter of max. 4 mm (head diameter max. 7 mm) are required.

In case of power supply via the 230-VAC grid, the mounting kit SLK_MOUNTKIT230V_V1 must be used; in case of battery operation or power supply via a 24-VDC mains, mounting kit SLK_MOUNTKIT_V1 must be used.

- Thanks to the integrated motion sensor, the LF radio field is inactive when not required
- The maximum tracking range is:
  - with integrated antenna up to 5 metres (adjustable)
  - with connected ground loop up to 100 metres
- Power supply can be flexibly selected
  - 230 VAC with mounting kit SLK_MOUNTKIT230V_V1
  - 24 VDC with external power supply unit and connector plug SLM_PLUG24V_V1
  - Battery SLM_BATLITHIUM_V1
- A vandalism sensor reports the opening of the case
- Multi-colour LED for status indication
- Simple familiarisation and management in the system with RFID
- Device monitoring in 30 seconds intervals

System compatibility:	Securwatch SmartLiberty
Interfaces:	
Long-range technology:	HF 868 MHz, bidirectional
Tracking technology:	LF 125 kHz, infrared (940 nm, 36 kHz) and PIR
RFID aerial:	13.56 MHz, passive RFID (ISO 15693 ICODE SLI R/W)
Installation:	Surface mounting
Protection class:	IP 40 (expendable to IP 65 with the retrofit kit)
Ambient temperature:	-20 °C to +60 °C
Relative air humidity:	up to 95 % without condensation
Case:	Polycarbonate, halogen-free, white (black corners)
Dimensions:	158 × 158 × 40 mm (H×W×D)
Weight:	320 g

Reader and accessories

	Label	Type	Article no.
	**Long-range RF reader**	SLR_RFREADER_V1	21-9200000-01
	**Mounting kit for RF**	SLK_MOUNTKIT_V1	21-9200001-01
	**Case for RF reader (replacement)** Cover including bottom side	SLR_COVER_V1	21-9200002-01
	**868 MHz rod antenna for RF reader (replacement)**	SLR_RFANTENNA_V1	21-9200003-01
	**Geolocation marker PIR, LF, IR**	SLM_MARKER_V1	21-9200004-01
	**Mounting kit for marker 230 VAC**	SLK_MOUNTKIT230V_V1	21-9200005-01
	**Lithium battery for marker**	SLM_BATLITHIUM_V1	21-9200006-01
	**IR corner for marker (replacement)**	SLM_IRCORNER_V1	21-9200008-01
	**PIR corner for marker (replacement)**	SLM_PIRCORNER_V1	21-9200009-01
	**Plug 24 VDC for marker**	SLM_PLUG24V_V1	21-9200010-01
	**Waterproof box IP65 for marker or RF reader**	SLK_WATER-PROOFKIT_V1	21-9200011-01

Transponder

Patient transponder RED SLB_RES_BADGE_V1

No.: 21-9210000-01

The patient transponder enables mobile individuals requiring assistance to send a help call or service call. Disorientation alarms can be released via the badge for individuals with the tendency to wander. The transponder can be attached to the wrist with the supplied wristband.

Accessories such as the safety pendant, belt clip and disposable wristband offer additional wearing options. The transponder is designed for use by individuals requiring care and is intended solely for this use.

- One button on the front for mobile help calls
- Two buttons on the side for mobile service calls
- Multi-colour LED for status indication
- Combined tracking technology via radio and infrared
- Simple familiarisation and management in the system with RFID
- Device monitoring in 30 seconds intervals

System compatibility:	Securwatch SmartLiberty
Battery:	CR2450 (3 V DC, 500 mAh)
Interfaces:	
Long-range technology:	HF 868 MHz, bidirectional
Tracking technology:	LF 125 kHz and infrared (940 nm, 36 kHz)
RFID aerial:	13.56 MHz, passive RFID (ISO 15693 ICODE SLI R/W)
Protection class:	IP 67w (waterproof in shower and bath)
Ambient temperature:	-20 °C to +60 °C
Case:	Latex-free plastic, black
Dimensions:	50 × 40 × 16 mm (H×W×D) excl. wristband
Weight:	44 g

No.: 21-9210018-01

Staff transponder with clip SLB_STA_BADGE_V1

The staff transponder with a clip is designed to look like a name plate. The transponder can be used to release help or aggression calls, acknowledge alarms and accompany disoriented inhabitants. The supplied clip can be used to attach the transponder to the outer clothing.

The transponder is designed for use by staff and is intended solely for this use.

- One button at the rear for mobile help and aggression calls
- One button at the rear for acknowledging calls
- Multi-colour LED for status indication
- Combined tracking technology via radio and infrared
- Simple familiarisation and management in the system with RFID
- Device monitoring in 30 seconds intervals

System compatibility:	Securwatch SmartLiberty
Battery:	CR2450 (3 V DC, 500 mAh)
Interfaces:	
Long-range technology:	HF 868 MHz, bidirectional
Tracking technology:	LF 125 kHz and infrared (940 nm, 36 kHz)
RFID aerial:	13.56 MHz, passive RFID (ISO 15693 ICODE SLI R/W)
Alarm acknowledgement:	125 kHz transmitter with 1 m range (only active when pressing acknowledgement button)
Protection class:	IP 67 (waterproof in shower and bath)
Ambient temperature:	-20 °C to +60 °C
Case:	Latex-free plastic, black
Dimensions:	59 × 88 × 13 mm (H×W×D) excl. clip
Weight:	56 g

Transponder and accessories

	Label	Type	Article no.
	**Patient transponder** RED with wristband	SLB_RES_BADGE_V1	21-9210000-01
	**Cover for patient transponder** Red	SLB_RES_COVERRED_V1	21-9210001-01
	**Cover for patient transponder** blue	SLB_RES_COVER-BLUE_V1	21-9210002-01
	**Cover for patient transponder** Pink	SLB_RES_COVERPINK_V1	21-9210003-01
	**Cover for patient transponder** Yellow	SLB_RES_COVERYEL-LOW	21-9210004-01
	Wristband with buckle (replacement) for patient transponder	SLB_RES_WRISTBAND-BUC	21-9210005-01
	Wristband with holes (replacement) for patient transponder	SLB_RES_WRISTBAND-HOL	21-9210006-01
	**Rubber loop (replacement)** for patient transponder wristband	SLB_RES_RUBBERLOOP	21-9210013-01
	**Bottom (replacement)** for patient transponder	SLB_RES_BOTTOM_V1	21-9210007-01
	**Safety fastener** for patient transponder	SLB_RES_LOCK_V1	21-9210008-01
	Safety lock key for patient transponder	SLB_RES_LOCKKEY_V1	21-9210009-01
	**Disposable wristband black** for patient transponder	SLB_RES_DISPOBAND_V1	21-9210010-01
	**Belt clip** for patient transponder	SLB_RES_BELTCLIP_V1	21-9210011-01
	**Pendant clips** for patient transponder, 2 pcs.	SLB_RES_PENDANTCLIP	21-9210012-01

	Label	Type	Article no.
	**Safety pendant** for patient transponder, requires SLB_RES_PENDANTCLIP	SLB_RES_PENDANT_V1	21-9210014-01
	**Battery CR2450** for patient and staff transponder	CSM_BATCR2450_V1	21-9210015-01
	**Screw driver torx T6**	SLB_RES_SCREWDRIVER	21-9210016-01
	**Screw set (replacement)** for patient and staff transponder	SLB_SCREWS_V2	21-9210017-01
	**Staff transponder** with clip	SLB_STA_BADGE_V1	21-9210018-01
	**Staff transponder dummy** with clip, without electronics	SLB_STA_BADGENO-ELEC	21-9210019-01
	**Clip (replacement)** for staff transponder	SLB_STA_CLIP_V1	21-9210020-01
	**Bottom (replacement)** for staff transponder	SLB_STA_BOTTOM_V1	21-9210021-01
	**Cover (replacement)** for staff transponder	SLB_STA_COVER_V1	21-9210022-01
	**Window (replacement)** for staff transponder	SLB_STA_WINDOW_V1	21-9210023-01

System components

System switch Securwatch L3 JL261A

No.: 21-9220100-01

Switch for set-up of an L3 network for Securwatch systems. The switch network is required for connecting the server with network-compatible system components.

A corresponding installation kit is required for installation in a network cabinet (1 height unit).

- 24 × 1 gigabit ports with PoE Plus (370 W)
- 4 × SFP ports
- Layer-3-switch with a routing table size of
  - 2000 at IPv4
  - 1000 at IPv6

System compatibility:	Securwatch SmartLiberty
Operating voltage:	100 – 127 V AC or 200 – 240 V AC
Current intensification:	4.9 A or 2.4 A
Wattage:	36.8 – 445 W
PoE output:	370 W
Interfaces/ports:	24 × RJ-45 sockets 10/100/1000 PoE Plus and 4 × SFP
Installation:	19" network cabinet (1 height unit)
Heat dissipation:	272.2 kJ/h
Ambient temperature:	0 °C to +45 °C
Relative air humidity:	15 to 95 % without condensation
Dimensions:	43.9 × 442.5 × 304.2 mm (H×W×D)
Weight:	3.9 kg

System switch Securwatch L2 J9773A

No.: 21-9220101-01

Switch for set-up of an L2 network for Securwatch systems. The switch network is required for connecting the server with network-compatible system components.

A corresponding installation kit is required for installation in a network cabinet (1 height unit).

- 24 × 1 gigabit ports with PoE Plus (195 W)
- 4 × SFP ports
- Layer-2-switch up to 16 000 MAC address entries

System compatibility:	Securwatch SmartLiberty
Operating voltage:	100 – 127 V AC or 200 – 240 V AC
Current intensification:	3.2 A or 1.6 A
Wattage:	25.2 – 247 W
PoE output:	195 W
Interfaces/ports:	24 × RJ-45 sockets 10/100/1000 PoE Plus and 4 × SFP
Installation:	19" network cabinet (1 height unit)
Heat dissipation:	142.42 kJ/h
Ambient temperature:	0 °C to +45 °C
Relative air humidity:	15 to 95 % without condensation
Dimensions:	44.5 × 443.5 × 330.2 mm (H×W×D)
Weight:	3.95 kg

Securwatch SmartLiberty server

No.: Upon request

Server including operating system for the operation of Securwatch SmartLiberty systems.

Sensor module SLS_MODULE_V1

No.: 21-9220004-01

The sensor module can be flexibly used for a variety of functions due to the sensors and ports. Help calls can be released via the pull cord and the push button. Due to the included magnetic sensor, it can also be used as a door opening sensor. And external devices can be connected to the 3.5 mm mono jack plug. Suitable for wall mounting.

For surface mounting, additional flat-head screws with a diameter of max. 3 mm and a head height of max. 2.2 mm (head diameter max. 10 mm) are required. The corresponding holder SLS_HOLDER_V1 is supplied as standard.

- One button on the front for releasing help calls
- One pull cord for releasing help calls
- Magnetic sensor integrated in the device
- Digital or analogue input
- Digital output
- Multi-colour LED for status indication
- Combined tracking technology via radio and infrared
- Simple familiarisation and management in the system with RFID
- Device monitoring in 30 seconds intervals

System compatibility:	Securwatch SmartLiberty
Battery:	CR2450 (3 V DC, 500 mAh)
Interfaces:	
Long-range technology:	HF 868 MHz, bidirectional
Tracking technology:	LF 125 kHz and infrared (940 nm, 36 kHz)
RFID aerial:	13.56 MHz, passive RFID (ISO 15693 ICODE SLI R/W)
Protection class:	IP 65 (waterproof when exposed to jets of water)
Ambient temperature:	-20 °C to +60 °C
Pull cord:	approx. 1.2 m
Grip:	20 × 30 mm (D×H)
Case:	Latex-free plastic, black
Dimensions:	100 × 90 × 22 mm (H×W×D)
Weight:	200 g

No.: 21-9220018-01

Replacement parts starter kit SLK_STARTERKIT_V1

Case with the most important replacement parts for Securwatch. The case contains various small parts and wear parts as well as case parts for the on site repair of damaged components.

- 1 × screwdriver T6 [SLB_RES_SCREWDRIVER]
- 1 × SLB opening kit
- 1 × SLB opening base
- 1 × SLB opening tool
- 5 × set of screws [SLB_SCREWS_V2]
- 10 × batteries [CR2450 CSM_BATCR2450_V1]
- 5 × clip [SLB_STA_CLIP_V1]
- 5 × window [SLB_STA_WINDOW_V1]
- 2 × cover [SLB_STA_COVER_V1]
- 2 × bottom [SLB_STA_BOTTOM_V1]
- 2 × wristband [SLB_RES_WRISTBANDBUC]
- 2 × wristband [SLB_RES_WRISTBANDHOL]
- 2 × safety fastener [SLB_RES_LOCK_V1]
- 2 × keys [SLB_RES_LOCKKEY_V1]
- 2 × pendant clip [SLB_RES_PENDANTCLIP]
- 5 × disposable wristband [SLB_RES_DISPOBAND_V1]
- 2 × belt clip [SLB_RES_BELTCLIP_V1]
- 2 × safety pendant [SLB_RES_PENDANT_V1]
- 2 × bottom side [SLB_RES_BOTTOM_V1]
- 2 × cover [SLB_RES_COVERRED_V1]
- 2 × cover [SLB_RES_COVERBLUE_V1]
- 2 × cover [SLB_RES_COVERPINK_V1]
- 2 × cover [SLB_RES_COVERYELLOW]

System components and accessories

	Label	Type	Article no.
	System switch Securwatch L3	JL261A	21-9220100-01
	System switch Securwatch L2	J9773A	21-9220101-01
	**Securwatch server**	SW SL SERVER	Upon request
	**Alarm display 15,6'' PoE** without mounting equipment and table stand	SLD_ALARMDISPLAY_V2	21-9220000-01
	**VESA wall mounting kit** for Alarm display 15,6" PoE	SLD_MOUNTPLATE_V1	21-9220001-01
	**Screen table stand (VESA)** for Alarm display 15,6" PoE	SLD_BASE_V1	21-9220002-01
	**NFC reader module** for Alarm display 15,6" PoE	SLD_NFCMODULE_V1	21-9220003-01
	**Sensor mdoule**	SLS_MODULE_V1	21-9220004-01
	**Bracket for sensor module (replacement)**	SLS_HOLDER_V1	21-9220005-01
	**Case for sensor module (replacement)** Cover including bottom side	SLS_COVER_V1	21-9220006-01
	**Bottom side for sensor module (replacement)**	SLS_BOTTOM_V1	21-9220007-01
	**Cord for sensor module (replacement)** Length 1.5 m	SLS_PULLCORD_V1	21-9220008-01
	**Strong sticker magnet** for sensor module	SLS_MAGNET_V2	21-9220009-01
	**Cable clamp** for sensor module	SLS_CABLE_HOLDER_V1	21-9220010-01
	**Wireless sensor board** for contact mat or wireless motion sensor	SLS_SENSORBOARD_V1	21-9220011-01

	Label	Type	Article no.
	**Contact mat 1100 × 700 mm** requires wireless sensor board	SEN_CARPET_10V1	21-9220012-01
	**Wireless motion sensor** requires wireless sensor board	SEN_MOTION_V1	21-9220013-01
	**I/O module (8 in/8 out)** 24 VDC supply is additionally required	SLI_IOMODULE_V1	21-9220014-01
	**PoE splitter** supplies 24 VDC for I/O module	PWR_24VPOE_V1	21-9220017-01
	**I/O module mounting bracket**	SLI_IOHOLDERUNI_V1	21-9220015-01
	**I/O module DIN**	SLI_IOHOLDERDIN_V1	21-9220016-01
	**Replacement parts starter kit**	SLK_STARTERKIT_V1	21-9220018-01

Installation accessories and fitting materials

	Label	Type	Article no.
	**Mounting kit for RF**	SLK_MOUNTKIT_V1	21-9200001-01
	**Mounting kit for marker 230 VAC**	SLK_MOUNTKIT230V_V1	21-9200005-01
	**VESA wall mounting kit** for Alarm display 15,6" PoE	SLD_MOUNTPLATE_V1	21-9220001-01
	**Screen table stand (VESA)** for Alarm display 15,6" PoE	SLD_BASE_V1	21-9220002-01
	**I/O module mounting bracket**	SLI_IOHOLDERUNI_V1	21-9220015-01
	**I/O module DIN**	SLI_IOHOLDERDIN_V1	21-9220016-01

Replacement parts

	Label	Type	Article no.
	**868 MHz rod antenna for RF reader (replacement)**	SLR_RFANTENNA_V1	21-9200003-01
	**Bottom (replacement)** for staff transponder	SLB_STA_BOTTOM_V1	21-9210021-01
	**Bottom (replacement)** for patient transponder	SLB_RES_BOTTOM_V1	21-9210007-01
	**Bottom side for sensor module (replacement)**	SLS_BOTTOM_V1	21-9220007-01
	**Bracket for sensor module (replacement)**	SLS_HOLDER_V1	21-9220005-01
	**Case for RF reader (replacement)** Cover including bottom side	SLR_COVER_V1	21-9200002-01
	**Case for sensor module (replacement)** Cover including bottom side	SLS_COVER_V1	21-9220006-01
	**Clip (replacement)** for staff transponder	SLB_STA_CLIP_V1	21-9210020-01
	**Cord for sensor module (replacement)** Length 1.5 m	SLS_PULLCORD_V1	21-9220008-01
	**Cover (replacement)** for staff transponder	SLB_STA_COVER_V1	21-9210022-01
	Cover for marker (replacement)	SLM_COVER_V1	21-9200007-01
	**IR corner for marker (replacement)**	SLM_IRCORNER_V1	21-9200008-01
	**PIR corner for marker (replacement)**	SLM_PIRCORNER_V1	21-9200009-01
	**Replacement parts starter kit**	SLK_STARTERKIT_V1	21-9220018-01

	Label	Type	Article no.
	**Rubber loop (replacement)** for patient transponder wristband	SLB_RES_RUBBERLOOP	21-9210013-01
	**Screw set (replacement)** for patient and staff transponder	SLB_SCREWS_V2	21-9210017-01
	**Window (replacement)** for staff transponder	SLB_STA_WINDOW_V1	21-9210023-01
	**Wristband with buckle (replacement)** for patient transponder	SLB_RES_WRISTBAND-BUC	21-9210005-01
	**Wristband with holes (replacement)** for patient transponder	SLB_RES_WRISTBAND-HOL	21-9210006-01

Accessories

	Label	Type	Article no.
	**Battery CR2450** for patient and staff transponder	CSM_BATCR2450_V1	21-9210015-01
	**Belt clip** for patient transponder	SLB_RES_BELTCLIP_V1	21-9210011-01
	**Cable clamp** for sensor module	SLS_CABLE_HOLDER_V1	21-9220010-01
	**Cover for patient transponder** blue	SLB_RES_COVER-BLUE_V1	21-9210002-01
	**Cover for patient transponder** Yellow	SLB_RES_COVERYEL-LOW	21-9210004-01
	**Cover for patient transponder** Pink	SLB_RES_COVERPINK_V1	21-9210003-01
	**Cover for patient transponder** Red	SLB_RES_COVERRED_V1	21-9210001-01
	**Disposable wristband black** for patient transponder	SLB_RES_DISPOBAND_V1	21-9210010-01
	**Lithium battery for marker**	SLM_BATLITHIUM_V1	21-9200006-01
	**NFC reader module** for Alarm display 15,6" PoE	SLD_NFCMODULE_V1	21-9220003-01
	**Pendant clips** for patient transponder, 2 pcs.	SLB_RES_PENDANTCLIP	21-9210012-01
	**Plug 24 VDC for marker**	SLM_PLUG24V_V1	21-9200010-01
	**PoE splitter** supplies 24 VDC for I/O module	PWR_24VPOE_V1	21-9220017-01
	**Safety fastener** for patient transponder	SLB_RES_LOCK_V1	21-9210008-01

	Label	Type	Article no.
	**Safety lock key** for patient transponder	SLB_RES_LOCKKEY_V1	21-9210009-01
	**Safety pendant** for patient transponder, requires SLB_RES_PENDANTCLIP	SLB_RES_PENDANT_V1	21-9210014-01
	**Screw driver torx T6**	SLB_RES_SCREWDRIVER	21-9210016-01
	**Strong sticker magnet** for sensor module	SLS_MAGNET_V2	21-9220009-01
	**Waterproof box IP65 for marker or RF reader**	SLK_WATER-PROOFKIT_V1	21-9200011-01
	**Wireless sensor board** for contact mat or wireless motion sensor	SLS_SENSORBOARD_V1	21-9220011-01

7.2 Single-door-system

No.: 22-4061001-01

Reader/receiver unit basic V100-001

The reader/receiver unit basic transmits the LF-ID, receives the signals of the transponders in the physical proximity and forwards the information accordingly. A simultaneous detection of several transponders and an automatic field regulation is possible. The power supply unit is supplied as standard and must be ordered separately.

- A detection distance radius of up to four metre can be set
- Active transponder system
- Reliable three-dimensional detection
- Simultaneous detection of several transponders
- Automatic regulation of the detection field
- Battery monitoring in the detection field: Transponder sends a notification when the battery capacity is lower than 30 percent

System compatibility:	Securwatch Pro
Operating voltage:	12 – 26 V DC
Frequency bands:	125 kHz/868 MHz
Range:	up to 4 m
Inputs/outputs:	2 × isolated relay outputs, with a load capacity of 0,5 A/125 V AC and 1 A/30 V DC 1 × isolated monitoring output in case of faults, with a load capacity of 0,5 A/125 V AC and1 A/30 V DC 2 × optocoupler inputs and 6 × CPU outputs
Installation:	Surface mounting
Ambient temperature:	-20 °C to +60 °C
Case:	ABS plastic, white
Dimensions:	138 × 178 × 31 mm (H×W×D)
Weight:	500 g

Dementia patient transponder V420-117

No.: DF100548

Transponder in a wristband case with wristband and patented fastener for localising dementia patients.

- LED for status indication
- Battery monitoring and battery
- Battery replaceable without professional assistance
- Three-dimensional antenna for reliable detection, independent of the location
- Wristband fastener can be opened and closed any number of times
- Length adjustable when open
- Can only be opened with the magnetic key

System compatibility:	Securwatch Pro
Battery:	CR2032, 3 V
Frequency bands:	868.0 – 868.6 MHz
Activation frequency:	125 kHz
Transmission power 868 MHz:	+5 dB
Protection class:	IP 67
Material tape piece:	PE fabric tape with PVC coating in leather design
Case dimensions:	50 × 47 × 10 mm (H×W×D)
Wristband length:	270 mm
Weight:	26 g

Magnetic key S730-003

No.: 22-4079002-01

Universal magnetic key for colortag fastener and wristband or ankle band fastener. The special magnetic key is designed for opening the patented fasteners of the wristbands and colortag fasteners.

Power supply unit with connector plug V100-050

No.: 22-4069001-01

Power supply unit with connector plug 230 V – 12 VDC, 500 mA, with 130 cm cable for connection to the reader/receiver unit basic Basic V100-001.

System compatibility:	Securwatch Pro
Operating voltage:	100 – 240 V
Operating frequency:	50 – 60 Hz
Output voltage:	12 V DC
Wattage:	6 W
Dimensions:	24 × 33 × 46 mm (H×W×D)
Ambient temperature:	max. 40 °C
Primary connection:	Europe Plug
Secondary connection:	stripped, tin-plated 1.5 m

Staff transponder V410-103

No.: 21-9110150-01

Transponder for the care staff in a case for alarm suppression when accompanying a dementia patient through the detection area. For safety reasons, acknowledgement is only possible within the detection area by simultaneously pressing the buttons.

- Clip fastener for attaching to clothes
- Acknowledgement button and alarm suppression
- Protection class IP 67
- LED for status indication
- Battery monitoring and battery
- Battery replaceable without professional assistance
- Three-dimensional antenna for reliable detection, independent of the location

System compatibility:	Securwatch Pro
Battery:	CR2032, 3 V
Frequency bands:	868.0 – 868.6 MHz
Activation frequency:	125 kHz
Transmission power 868 MHz:	+5 dB
Protection class:	IP 67
Attachment:	Clip fastener
Material tape piece:	Leather
Case dimensions:	20.5 × 39 × 6 mm (H×W×D)
Weight:	26 g

Magnet contact set S530-002

No.: 21-9023201-01

Consists of two cases: The wired one contains the reed contact contact and is attached to the door frame. The other one contains a magnet and is mounted directly to the door leaf.

Connection cables:	6 m
Diameter:	3 mm

Single-door-system and accessories

	Label	Type	Article no.
	**Reader/receiver unit basic**	V100-001	22-4061001-01
	**Power supply unit with connector plug**	V100-050	22-4069001-01
	**Dementia patient transponder**	V420-117	DF100548
	**Staff transponder**	V410-103	21-9110150-01
	**Universal magnetic key**	S730-003	22-4079002-01
	Magnet contact set	S530-002	21-9023201-01

8 Power supply

8.1 Power supplies

No.: 21-2300000-01

Power supply VDE0834 24V/10A CP10.241-M1

Power supply unit for 24 V power supply of wards and other areas requiring low voltage. The power supply unit is suited for use in medical facilities and complies with the special protective measures through the galvanic isolation of the output voltage PELV/SELV with 2 × MOPP. Suited for top-hat rail and wall mounting.

For surface mounting, the corresponding wall-mounted bracket ZM4.WALL or fitting bracket ZM12.SIDE is required; for top-hat rail mounting, a 35 mm DIN top-hat rail must be provided for. The fitting bracket ZM12.SIDE is suited for top-hat rail and wall mounting.

NOTE

The power supply unit CP10.241-M1 corresponds to standard IEC 60601-1 3rd Edition with regard to the electrical safety of call systems and therefore complies with the safe isolation 2 × MOPP required in accordance with VDE 0834:2016-06.

- Safe isolation 2 × MOPP in accordance with IEC 60601-1 3rd Edition
- Thermal cut-off, overload/overvoltage and short-circuit protection
- Relay contact and LED for monitoring the output voltage
- Mounting clips for 35 mm DIN rails for a simple and fast installation included

System compatibility:	Visocall IP, Visocall Plus, Visoopt, Securwatch
Input voltage:	100 – 240 V AC (50 – 60 Hz)
Output voltage:	24 – 28 V VDC, adjustable with potentiometer
Input current:	2,15 A/100 V AC, 1,13 A/230 V AC
Output current:	12 – 10.3 A typ.
Interfaces:	
Inputs:	3 × spring-loaded terminals (N, L, PE) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Outputs:	5 × spring-loaded terminals (2 × pos. and 3 × neg.) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Relay contact:	2 × plug-in terminals for wire diameters of up to 1.5 mm^2 (single-wire or strand)
Installation:	Top-hat rail or surface mounted
Protection class:	IP 20
Ambient temperature:	-25 °C to +70 °C
Relative air humidity:	5 to 95 % without condensation
Case:	Aluminium alloy with galvanised steel
Dimensions:	124 × 39 × 117 mm (H×W×D)
Weight:	620 g

Power supply 5A REDIN120-24

No.: 21-2301000-01

Power supply unit for 24 V power supply of wards and other areas requiring low voltage. A 35 mm DIN top-hat rail is required for mounting.

NOTE

The power supply unit is not intended for use in VDE 0834:2016-06 conform call systems.

- Thermal cut-off, overload/overvoltage and short-circuit protection
- Relay contact and LED for monitoring the output voltage
- Parallel operation of up to three power supply units possible for redundant execution or for increasing the output current
- Mounting clips for 35 mm DIN rails for a simple and fast installation included (applied at the rear or on the left side)

System compatibility:	Visocall IP, Visocall Plus, Visoopt, Securwatch
Input voltage:	100 – 240 V AC (50 – 60 Hz)
Output voltage:	24 – 28 V VDC, adjustable with potentiometer
Input current:	max. 1.5 A/115 V AC, 0.65 A/230 V AC
Output current:	5 A typ.
Interfaces:	
Inputs:	3 × screw-type terminals (N, L, PE) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Outputs:	2 × screw-type terminals (2 × pos. and 1 × neg.) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Relay contact:	2 x screw-type terminals for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Installation:	Top-hat rail
Protection class:	IP 20
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	20 to 90 % without condensation
Case:	Aluminium with nickel plated steel
Dimensions:	124 × 33 × 124 mm (H×W×D)
Weight:	590 g

No.: 21-2301001-01

Power supply 10A REDIN240-24

Power supply unit for 24 V power supply of wards and other areas requiring low voltage. A 35 mm DIN top-hat rail is required for mounting.

NOTE

The power supply unit is not intended for use in VDE 0834:2016-06 conform call systems.

- Thermal cut-off, overload/overvoltage and short-circuit protection
- Relay contact and LED for monitoring the output voltage
- Parallel operation of up to three power supply units possible for redundant execution or for increasing the output current
- Mounting clips for 35 mm DIN rails for a simple and fast installation included (applied at the rear or on the left side)

System compatibility:	Visocall IP, Visocall Plus, Visoopt, Securwatch
Input voltage:	100 – 240 V AC (50 – 60 Hz)
Output voltage:	24 – 28 V VDC, adjustable with potentiometer
Input current:	2.28 A/115 V AC typ., 1.13 A/230 V AC
Output current:	10 A typ.
Interfaces:	
Inputs:	3 × screw-type terminals (N, L, PE) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Outputs:	4 × screw-type terminals (2 × pos. and 2 × neg.) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Relay contact:	2 x screw-type terminals for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Installation:	Top-hat rail
Protection class:	IP 20
Ambient temperature:	-25 °C to +55 °C
Relative air humidity:	20 to 90 % without condensation
Case:	Aluminium with nickel plated steel
Dimensions:	124 × 46 × 124 mm (H×W×D)
Weight:	810 g

No.: 21-2301002-01

Power supply 20A REDIN480-24

Power supply unit for 24 V power supply of wards and other areas requiring low voltage. A 35 mm DIN top-hat rail is required for mounting.

NOTE

The power supply unit is not intended for use in VDE 0834:2016-06 conform call systems.

- Thermal cut-off, overload/overvoltage and short-circuit protection
- Relay contact and LED for monitoring the output voltage
- Parallel operation of up to three power supply units possible for redundant execution or for increasing the output current
- Mounting clips for 35 mm DIN rails for a simple and fast installation included (applied at the rear or on the left side)

System compatibility:	Visocall IP, Visocall Plus, Visoopt, Securwatch
Input voltage:	100 – 240 V AC (50 – 60 Hz)
Output voltage:	24 – 28 V VDC, adjustable with potentiometer
Input current:	4.59 A/115 V AC typ., 2.36 A/230 V AC typ.
Output current:	20 A typ.
Interfaces:	
Inputs:	3 × screw-type terminals (N, L, PE) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Outputs:	4 × screw-type terminals (2 × pos. and 2 × neg.) for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Relay contact:	2 x screw-type terminals for wire diameters of up to 6 mm^2 (single-wire) or 4 mm^2 (strand)
Installation:	Top-hat rail
Protection class:	IP 20
Ambient temperature:	-25 °C to +50 °C
Relative air humidity:	20 to 90% without condensation
Case:	Aluminium with nickel plated steel
Dimensions:	124 × 71 × 133 mm (H×W×D)
Weight:	1185 g

Power supplies and accessories

	Label	Type	Article no.
	**Power supply 24 V, conforming to VDE 0834** Power supply VDE0834 24V/10A	CP10.241-M1	21-2300000-01
	**Redundany module, 24 VDC, 2 x 10 A** for redundant execution of the 24 VDC power supply with automatic load distribution	YR20.246	21-2300006-01
	**DIMENSION 90° mounting bracket** for the side mounting of the power supply unit VDE0834 24V/10A	ZM12.SIDE	21-2300001-01
	**Power supply 24 V** Power supply 5A (24V/120W/5A)	REDIN120-24	21-2301000-01
	**Power supply 24 V** Power supply 10A (24V/240W/10A)	REDIN240-24	21-2301001-01
	**Power supply 24 V** Power supply 20A (24V/480W/20A)	REDIN480-24	21-2301002-01
	**Redundany module, 24 VDC, 2 x 20 A** for redundant execution of the 24 VDC power supply	RM-2X20	FC008715
	**Input/output module IO-M-P**	IO-M-P	21-1023001-01

8.2 Uninterruptible power supply

No.: FC010721 mit 4 ×
No.: FC010722

UPS Eaton 5PX 1500I RT2HE 5PX1500IRT

Power supply for interruption-free supply of back-up power in the event of power failures. For use as primary side UPS for call system components.

Two consumer connection cables, one RS-232 cable, one USB cable, one mounting kit for installation in 19" cabinets and one base are supplied as standard. UPS electronics (1500I) can be operated alone or for extending the supply interruption period with up to four UPS battery modules (EBM).

- The supply interruption period depends on the connected battery modules.
  - 1 x 1500I typ. 19 min at 50 % load or 11 min at 70 % load
  - 1× 1500I and 1 × EBM typ. 90 min at 50 % load or 54 min at 70 % load
  - 1× 1500I and 4 × EBM typ. 285 min at 50 % load or 180 min load 70 % load
- Automatic battery test, deep discharge protection and automatic detection of external battery modules (EBM)
- Communication ports (USB and RS-232 cannot be used at the same time)
  - 1 × USB socket
  - 1 × RS-232 interface
  - 1 × mini terminal block for remote on/off switching
- Connection slot for a communication card (NMC Minislot, NMC ModBus/JBus, MC contacts/serial)
- LC display for indication of status and measurement data of the UPS

System compatibility:	Visocall IP, Visocall Plus, Securwatch
Rated power:	1500 VA / 1350 W
Input voltage:	160 – 294 V AC (47 – 70 Hz)
Output voltage:	adjustable to: 200/208/220/230/240 V AC (50/60 Hz)
Inputs/outputs:	1 × IEC C14 input (10 A) 8 × IEC C13 outputs (10 A), of which two groups with two sockets can be remote-controlled
Installation:	19" network cabinet (2 height unit)
Ambient temperature:	0 °C to +40 °C
Dimensions:	
UPS electronics (1500I)	86.2 × 441 × 522 mm (H×W×D)
Battery module (EBM)	86.2 × 441 × 522 mm (H×W×D)
Weight:	
UPS electronics (1500I)	27.6 kg (incl. battery)
Battery module (EBM)	32.8 kg (incl. battery)

No.: 23-1020001-01

SecoLOG IP emergency power supply SECOLOG IP EPS

Power supply for interruption-free supply of back-up power in the event of short-term power failures. For use on computers such as SecoLOG IP PCs or control panels. Rechargeable cells are supplied as standard.

- Supply interruption period typ. 12 min at 50 % Last bzw. 7 min at 70 % Last
- Automatic battery test and deep discharge protection
- Communication ports (USB and RS-232 cannot be used at the same time)
  - 1 × USB socket
  - 1 × RS-232 interface
  - 1 × mini terminal block for remote on/off switching
- Connection slot for a communication card (network, ModBus, relay)
- LC display for indication of status and measurement data of the UPS

System compatibility:	Secolog IP, Visocall IP, Visocall Plus, Secur-watch
Rated power:	850 VA / 600 W
Input voltage:	160 – 294 V AC (47 – 70 Hz)
Output voltage:	adjustable to 200/208/220/230/240 V AC (50/60 Hz)
Inputs/outputs:	6 × IEC C13 outputs (10 A)
Ambient temperature:	0 °C to +35°C
Dimensions:	230 × 150 × 345 mm (H×W×D)
Weight:	10.4 kg (incl. battery)

DC UPS control unit UB20.241

No.: 21-2300004-01

The uninterruptible power supply control unit is used together with a 24 V power supply and batteries to bridge power failures or voltage fluctuations.

Input voltage:	18 – 30 V DC
Output voltage:	in mains operation like input voltage in battery operation 22.5 V, 24 V, 25 V, 26 V (selectable)
Output current mains operation:	25 A permanent, 30 A for 4 s
Output current battery operation:	20 A permanent, 30 A for 4 s. at 22.5 V
Ambient temperature:	-40 °C to +70 °C
Dimensions:	124 × 46 × 127 mm (H×W×D)
Weight:	700 g

No.: 21-2300003-01

Battery module 24V/12AH passive UZK24.121

The battery module consists of two series-connected, sealed and maintenance-free lead-acid batteries, which are installed in a metal frame with all necessary connection cables and protective measures.

Battery type:	VRLA lead-acid battery
Battery voltage:	24 V DC
Battery current:	max. 35 A for discharge max. 3.5 A for charge
Battery fuse:	35 A (ATO fuse)
Charging voltage:	27.8 V at 10 °C 27.5 V at 20 °C 27.15 V at 30 °C 26.8 V at 40 °C
Installation:	DIN rail
Ambient temperature:	-10 °C to +40 °C
Dimensions:	186 × 203 × 143 mm (H×W×D)
Weight:	9 kg

UPS devices and accessories

	Label	Type	Article no.
	**UPS Eaton 5PX 1500I RT2HE** UPS electronics, incl. battery	5PX1500IRT	FC010721
	Replacement battery (replacement) for UPS electronics 5PX1500IRT, 1 pc., (UPS electronics holds 4 batteries)	SV22-2829009-01-01	22-2829009-01
	**UPS Eaton 5PX EBM 48V RT2HE** UPS battery module, incl. battery	5PXEBM48RT	FC010722
	Replacement battery (replacement) for UPS battery module 5PXEBM48RT, 1 pc., (battery module hold 8 batteries)	SV22-2829010-01-01	22-2829010-01
	**UPS Eaton Kabel IEC320/C14-C13** for the connection of a consumer device to an UPS electronics 5PX1500IRT, cable length 1.8 m, C13 connection, angled	K-USV-C14	FC010724
	**UPS Eaton relay management card** USV relay module for fault analysis (e.g. connection to IO-M-P)	RELAY-MS	FC010723
	**USV cable Schuko-IE320/C13** for the connection of UPS electronics 5PX1500IRT at a power outlet, cable length 2 m, C13 connector, lockable	K-SCHUKO-C13	FC010725
	**UPS cable fault analysis** Cable for the connection of a UPS relay module RELAY-MS to an input (e.g. connection to IO-M-P)	K-SUBD-STÖR	FC010726
	**Input/output module IO-M-P**	IO-M-P	21-1023001-01
	**UPS wall-mounted bracket** for UPS Eaton 5PX 1500I RT2HE and UPS Eaton 5PX EBM 48V RT2HE, dimensions: 63 × 20 × 66 cm (H×W×D), capacity: 44 × 17.5 × 51 cm (H×W×D)	WH-USV	FC010727
	**UPS fault analysis relay** Relay for 24 V fault analysis for ZLT	USV-REL	FC010728
	**SecoLOG IP emergency power supply** incl. rechargeable cells	SECOLOG IP EPS	23-1020001-01
	**Rechargeable cell 12 V/7 Ah (replacement)** Replacement rechargeable cell for SecoLOG IP emergency power supply (UPS holds 2 rechargeable cells)	AKKU 7	HG691021

	Label	Type	Article no.
	**DC UPS control unit**	UB20.241	21-2300003-01
	**Battery module 24V/12AH**	UZK24.121	21-2300004-01

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