Flamenco^{IP}

Technical Manual

The next generation
for perfect communication

00 8813 52

1. Table of contents

2. Safety notes

You are strongly advised to carefully study this chapter before starting to work at the nurse call system.

2.1 About this chapter

The Flamenco^{IP} products have been designed and produced according to the latest state-of-the-art. Nevertheless, potentially dangerous situations may occur during installation, modification or de-installation of the system or of its components if the executing persons on-site act in a non-professional manner, or if pertinent safety instructions are ignored. Non-compliance with general and special safety instructions may jeopardise the life and well-being of installation personnel or third persons, and such misbehaviour may lead to damage to system components and other equipment.

Information in this chapter is of general nature. Special and more detailed warning messages are presented in the various chapters when safety-hazardous work details or processes are described.

2.2 Organisational measures

Electrical systems shall be installed, modified, serviced and maintained by authorised specialists of the trade only. Among others, these are personnel from the local electric power companies and electricians who are listed on their roster. The registered electrician shall contact the power company to formally request the commissioning of any new electric installation. As such, electric installation personnel shall be responsible for the safety and correct function of the relevant electric systems.

Commercial users of electric installations shall arrange for regular servicing and maintenance of the respective electric equipment. Users and operators shall observe the legal aspects as final responsibility rests with themselves. Any work at the electric system and installation must be executed by trained and authorised specialists of the trade.

The German standard DIN VDE 0834 prescribes, among others, that all work on nurse call systems must only be carried out by appropriately trained and qualified professionals. Specialist for nurse call systems with regard to this standard are persons who have specialized knowledge for constructing and testing a nurse call system in accordance with the applicable standards and to certify its operational reliability.

Tunstall GmbH makes possible the qualifying of specialists for nurse call systems.

This manual is directed at electrical installers with the qualification of “Specialist for nurse call systems”.

Before starting any installation work, carefully study this manual - with particular attention to the chapter “Safety notes”. Later on, i.e. while working at the system, it will be too late.

Keep this manual and any further documents which you may need readily available during the installation work and whenever effecting any service or maintenance work at the system.

Comply with all generally applicable laws as well as special rules and directives for accident prevention and environmental protection.

All parts and any equipment used for the installation shall comply with the technical demands and criteria set forth by Tunstall GmbH. This is always ensured when using original parts.

2.3 Symbols used in this manual

When studying this manual, you will come across a number of symbols which direct your attention to specific issues:

WARNING! This symbol refers to actions which may incur personal injuries (Danger to life or well-being).

WARNING! This symbols refers to actions which could endanger persons through electrical voltage or electrical current.

Components sensitive to electrostatics! This symbol indicates components which are sensitive to electrostatics. Avoid any contact with these components as this may induce damage to such component.

CAUTION! This symbol refers to actions which may incur damage to the system or components due to electrical voltage or electrical current.

NOTE! Here you will find supplementary and otherwise useful information.

In the text passages you will come across symbols which always have the same meaning:

- A square before the text means: “This is part of a listing.”
- A filled-in circle before the text means: “This is what you have to do.”
- ✓ A checkmark before the text means: “This is the result of an action.”

2.4 Intended use

All Flamenco^{IP} products are designed for use in the nurse call system, and here again, only in the manner as described in this technical manual. Any other application of use shall be considered as not authorised, and Tunstall GmbH will not accept any liability for damage resulting from any non-compliance with this rule.

2.5 General safety rules

- Closely observe all safety instructions and warning messages from this manual, pertinent national rules and directives for accident prevention as well as the owner's / user's internal rules and procedures for safety at work and while handling or operating the system.
- Avoid any safety-hazardous work methods.
- Before starting to work, personnel shall make themselves familiar with the working environment which includes a survey of obstacles in the working and operating area.
- Use only original fuses with the correct rating for the specific application.
- Only install and wire up the equipment in a de-energized state.
- If work details must be executed at installed components they must be free from residual voltage. Before working at such parts, use applicable instruments to check the electric status.
- If work must be executed at electrically live components, a second person should act as a safety attendant who in case of an emergency can turn the main switch off.
- In case of any fault or malfunction, shut off the electrical power. Do not continue to work until the fault has been corrected.
- Protect all system components from direct wetness.
- There are various components of the Flamenco^{IP} system fitted with elements sensitive to electrostatics. Any discharge of electrostatic energy may damage such parts. Therefore, avoid any direct contact with these electrostatically sensitive components.
- For further information regarding the installation and functional check refer to the German standard DIN VDE 0834, parts 1 and 2.

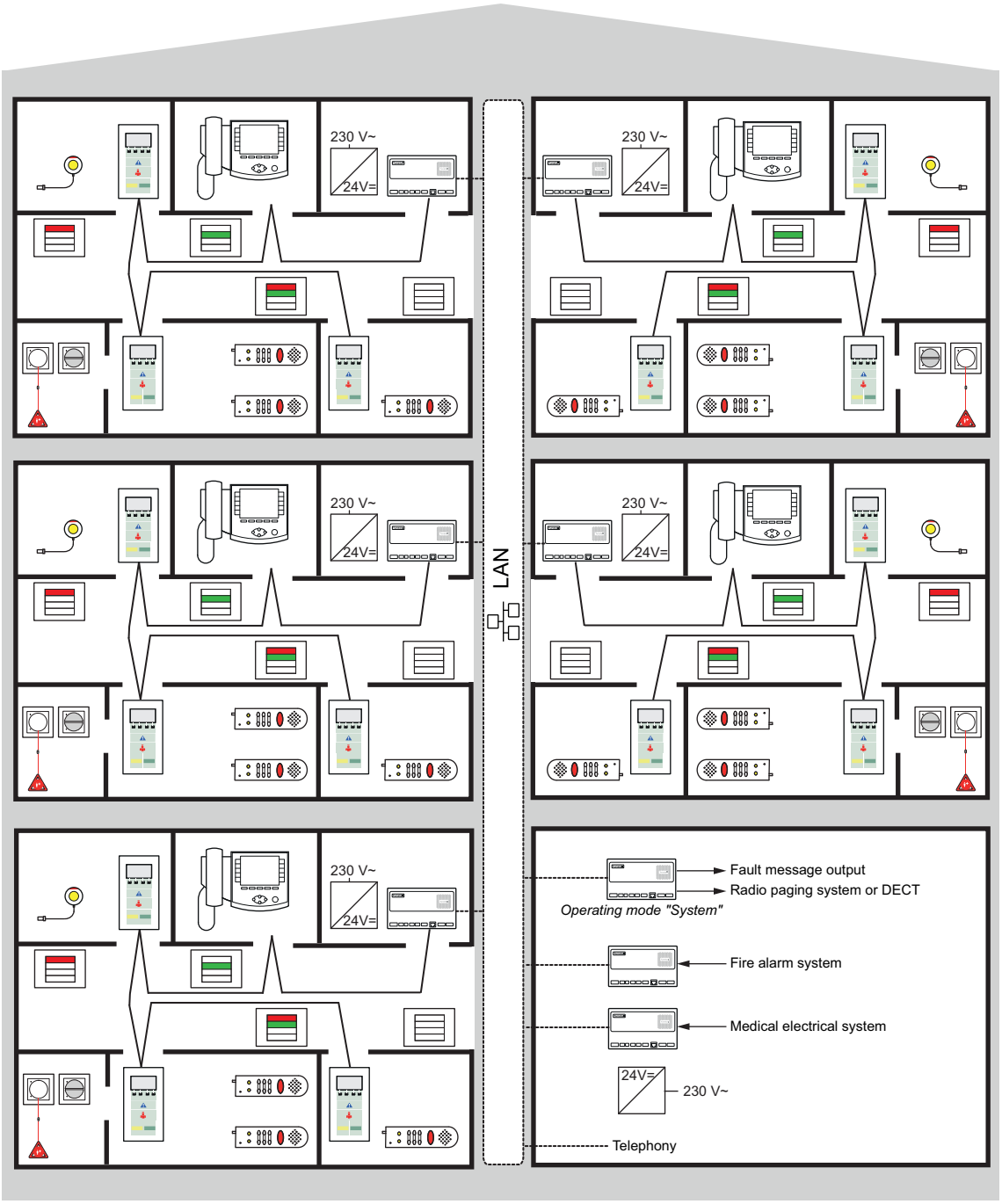
2.6 Technical standards

Close observe the following standards which are applicable to nurse call systems:

- DIN VDE 0834-1, Call systems in hospitals, nursing homes and similar institutions - Part 1: Requirements for equipment, erection and operation
- DIN VDE 0834-2: 2000-04, Call systems in hospitals, nursing homes and similar institutions - Part 2: - Environmental conditions and electromagnetic compatibility
- DIN EN 60601-1:2013-12, Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
- DIN EN 60601-1-8:2014-04, Medical electrical equipment - Part 1-8: General requirements for basic safety and essential performance - Collateral Standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
- DIN EN 60669-2-2:2007-05, Switches for household and similar fixed electrical installations - Part 2-2: Particular requirements - Electromagnetic remote-control switches (RCS)
- DIN EN 62368-1:2016-05, Audio/video, information and communication technology equipment - Part 1: Safety requirements
- DIN EN 80001-1:2011-11, Application of risk management for IT-networks incorporating medical devices - Part 1: Roles, responsibilities and activities
- DIN EN ISO 11197:2016-08, Medical supply units
- DIN VDE 0100-200:2006-06, Low-voltage installations - Part 200: Definitions
- DIN VDE 0100-410:2007-06, Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock
- DIN VDE 0100-560:2013-10, Low-voltage electrical installations - Part 5-56: Selection and erection of electrical equipment - Safety services

Also observe additional national rules for installations.

3. Necessary previous knowledge



Decentralised system control unit
IP-SystemManager

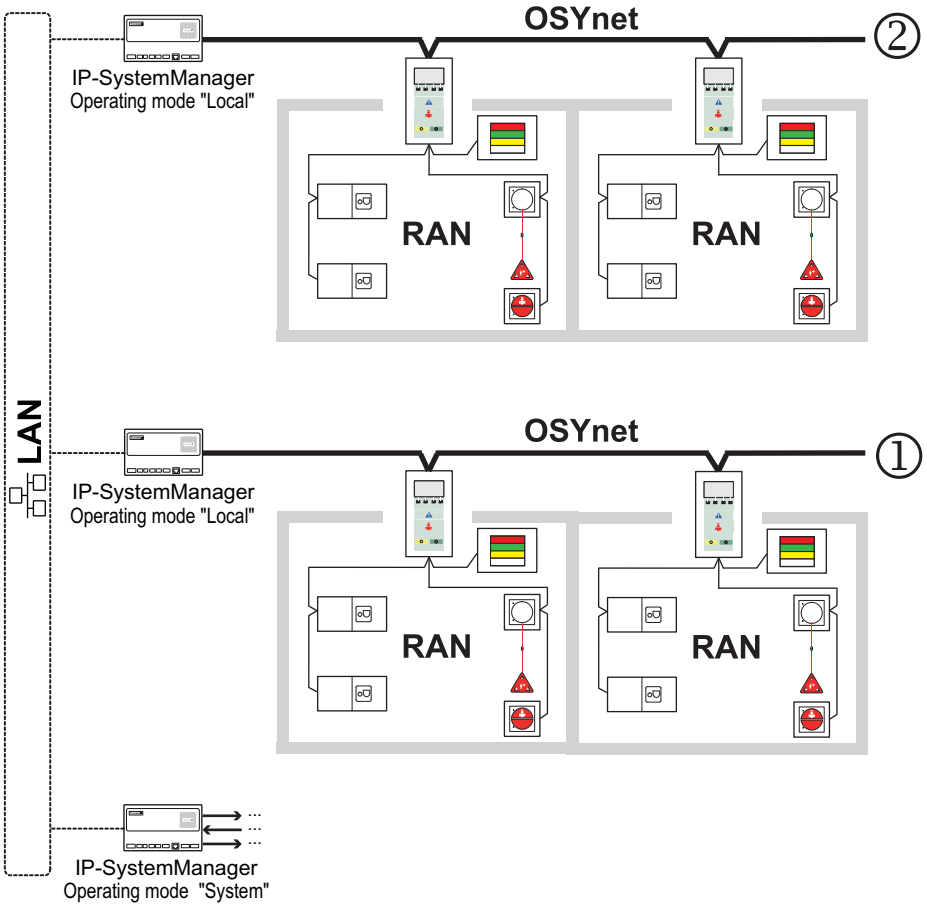
Fig. 1: System overview

3.1 System structure

The Flamenco^{IP} system is set up hierarchically. In the rooms, all devices are connected with each other through an intelligent RAN room bus (Room Area Network) and form a functional unit.

Starting from the room bus, the connection to the next hierarchical level of the system is established through the room terminals (e.g. ComTerminal Flamenco, RoomTerminal Flamenco, ControlTerminal Flamenco). The room terminals form the connection to the OSYnet group bus and from there to the decentralised system control unit, the IP-SystemManager. Each IP-SystemManager provides the complete nurse call function for an organisational group, i.e., ward.

Several IP-SystemManagers are connected to each other through an IP network infrastructure, then forming a complete system with cross-ward functions such as ward coupling or cross-ward speech connection. In the process, the network can be set up exclusively for the nurse call system or as part of the existing IP infrastructure on site.



① : Group 1
② : Group 2

RAN: Room bus
OSYnet: Group bus

Fig. 2: System structure

Decentralised power supply units provide the electric power for the system. Number of units and their location depend on the specific demand for electric power.

For the connection of external systems such as a fire alarm system, additional IP-SystemManagers are integrated into the IP network.

3.1.1 Speech communication

Speech communication and data transmission are physically and logically separated in the OSYnet group bus. The system's speech line links the system‘s speech units: ComTerminal Flamenco, Patient handset, ComStation^{BUS-C}, ComStation^{PC}, ComStation^{CT} Flamenco. ManagementCenter^{PC} and the individual IP-SystemManagers are connected to the system through the IP network and voice communication is implemented through VoIP.

3.2 System control

3.2.1 IP-SystemManager

The nurse call system is controlled through several decentralised IP-SystemManagers. Through an IP network (LAN), all IP-SystemManagers of the nurse call system communicate with each other and with external devices or systems (e.g., IPBX) connected to the nurse call system through the IP network..

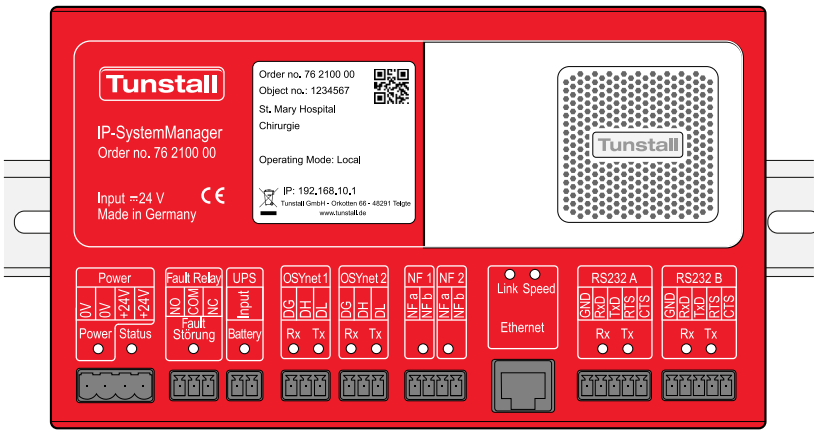


Fig. 3: IP-SystemManager (76 2100 00)

All IP-SystemManagers are equipped with uniform hardware.

The same project-specific database containing the nurse call system‘s configuration is stored on all IP-SystemManagers.

The IP-SystemManagers differ through the factory-set operating mode.

3.2.2 Operating modes

he IP-SystemManagers differ through the factory-set operating mode. The operating mode was factory-set according to the odered functional scope of the nurse call system. You cannot change the operating mode.

The operating mode provides functions and enables the IP-SystemManager connections required for these functions. The following operating modes are possible:

Operating mode	Operation purpose
System	Speech communication of the nurse call system, management and coordination of cross-group functions, display of faults in the nurse call system.
Local	Control of the nurse call operation of one ward, connection of the OSYnet group bus of the ward.
System + Local	The “System” and “Local” modes in one IP-SystemManager.
BMA/MED	Activation of an medical electrical system (MED) or fire alarm system (BMA).

Operating mode	Operation purpose
Voice Gateway	Connecting the speech channel of a ManagementCenter to the Flamenco^{IP} nurse call system or connecting the speech channel of an OSY-ControlCenter (Flamenco system) to the Flamenco^{IP} nurse call system.
Voice Gateway Master	Only for special applications, where two IP-SystemManagers with voice gateway functionality communicate with each other, e.g. to cover a long distance between a ManagementCenter and an OSY-ControlCenter. One of both IP-SystemManagers is set to “Voice Gateway Master” operating mode. The other is set to “Voice Gateway” operating mode.

Tab. 1: IP-SystemManager operating modes

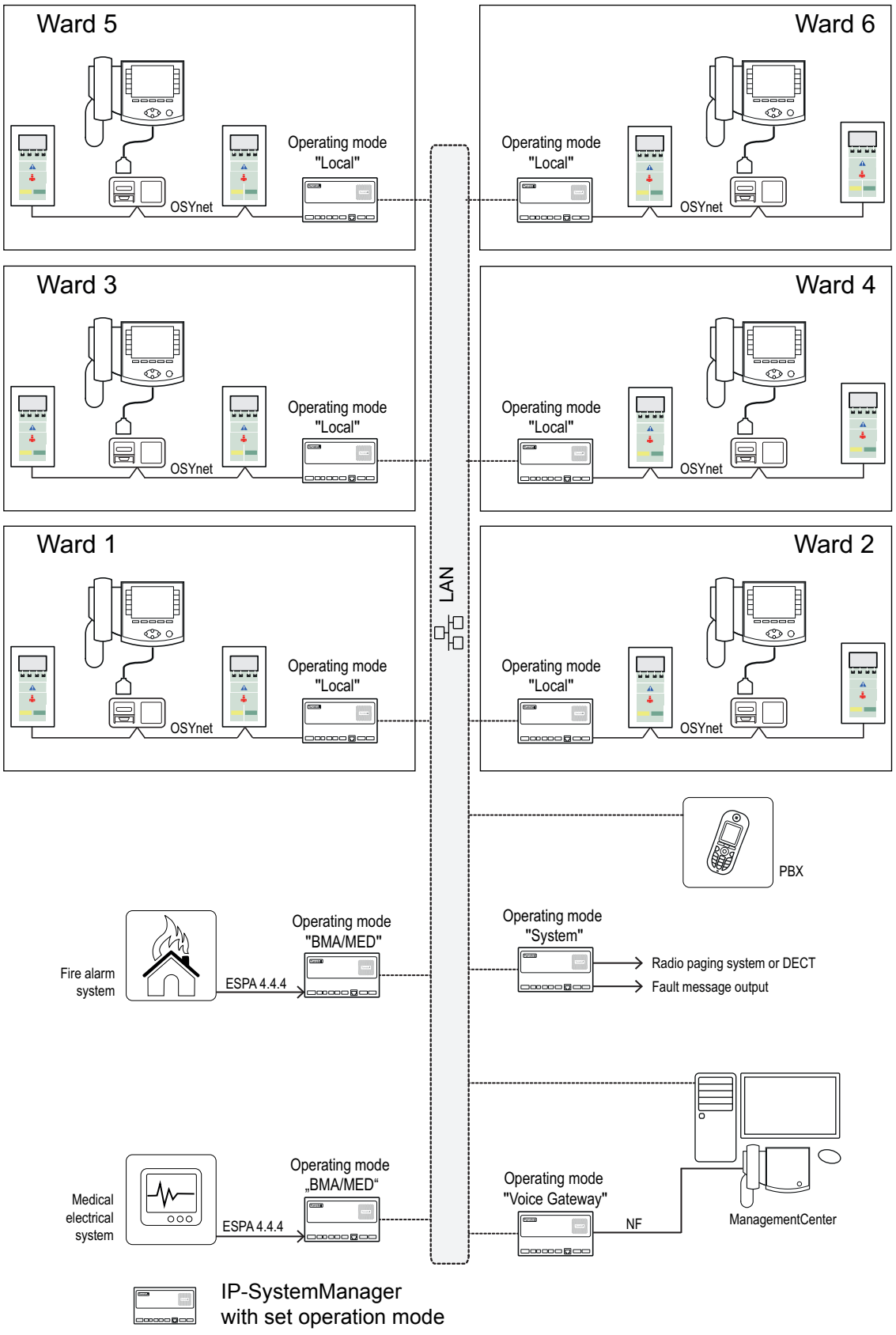


Fig. 4: System control - Overview

3.2.3 Configuration / SystemOrganizer

The configuration of the nurse call system is stored in the form of a database on all IP-SystemManagers. The IP-SystemManagers are preconfigured at the factory with the information provided by the customer when ordering.

To change the configuration of the nurse call system, i.e. to edit the database, the SystemOrganizer software (order no. 77 0750 00) is required.

How to use the SystemOrganizer software is described in the integrated online help. Nevertheless, the use of the software SystemOrganizer requires a one-day training by the Tunstall GmbH.

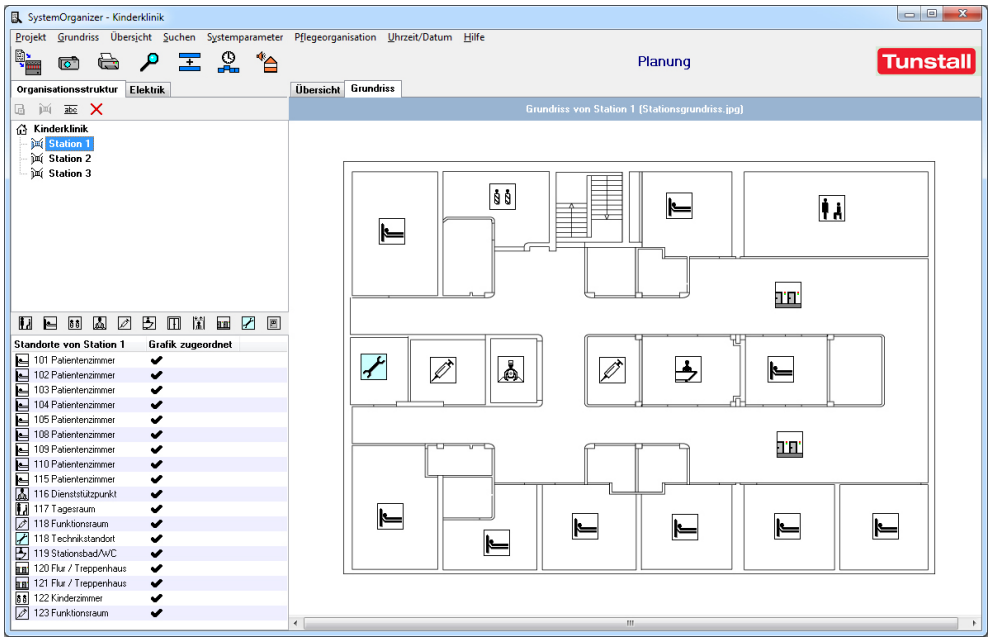


Fig. 5: SystemOrganizer (77 0750 00)

The configuration of the entire nurse call system is carried out centrally with the SystemOrganizer. Several user groups with different access rights are defined.

3.3 System limits

3.3.1 Nurse call system

The maximum size of a Flamenco^{IP} nurse call system is limited by the maximum number of installable IP-SystemManager control units. For each nurse call system, a maximum of 63 IP-SystemManagers can be installed, consisting of:

- 1 IP-SystemManager (operating mode “Local”) per ward.
- 1 IP-SystemManager (operating mode “System” or “System + Local”. An additional ward can be connected to “System + Local”.).
- 1 IP-SystemManager (operating mode “Voice Gateway”) per ManagementCenter.
- 1 IP-SystemManager (operating mode “BMA/MED”) per connected medical electrical system.
- 1 IP-SystemManager (operating mode “BMA/MED”) per connected fire alarm system.

NOTE! If the Flamenco^{IP} nurse call system shall be connected to a Flamenco nurse call system, i.e., with an OSY-ControlCenter, deviating conditions apply. Ask your contact person at Tunstall GmbH.

The spatial expansion of the nurse call system is limited by the expansion of the IP network that connects the IP-SystemManager control units to each other.

A maximum of 8 nurse call systems can be connected to one ManagementCenter.

3.3.2 Speech connections

Only one speech connection can be active on each ward at one time.

The number of possible simultaneous cross-ward voice connections results from the number of wards in the nurse call system divided by 2.

The number of possible simultaneous speech connections at the ManagementCenter is physically limited to one since there is only one speech unit.

An announcement can be transmitted to all connected rooms at the same time.

3.3.3 Ward

One OSYnet group bus is connected to one IP-SystemManager for the control of a ward. A maximum of 110 bus users can be connected to this group bus.

Of the 110 bus users, no more than 55 of them shall be room terminals (superordinate term for all types of room controllers). That means no more than 55 rooms may be connected to a group bus. The requirement of DIN VDE 0834-1:2016-06 that an organisational group (= ward) comprises all rooms that can be managed by at least one person is decisive. The precise number of rooms must therefore be determined by the owner of the nurse call system.

The following devices are group bus users on the OSYnet group bus:

Room terminals

- ComTerminal Flamenco (77 0510 00, 77 0511 00)
- RoomTerminal Flamenco (77 0520 00, 77 0521 00)
- ControlTerminal Flamenco (77 0550 00, 77 0555 00, 77 0551 00)

Ward consoles ComStation

- ComStation^{CT} Flamenco (77 0606 00)
- ComStation^{T} Flamenco (77 0606 20)
- ComStation^{BUS-C} (77 0605 50)
- ComStation^{PC} (77 0602 00)

Corridor displays

- Corridor display Alpha 16 (77 0150 00)
- Corridor display Alpha 16, double-sided (77 0160 00)

OSYlink modules

- OSYlink-Door entry speaker (77 0801 00) for connecting 1 door entry speaker (77 0350 00)
- OSYlink-Group lamp (77 0802 00) for connecting 4 direction lamps (77 0111 02) or group lamps (77 011x 02) for 4 wards
- OSYlink-Universal (77 0803 00) with 8 inputs and 6 outputs for connecting external devices
- OSYlink-Announcement L (77 0804 00) for connecting 5 loudspeakers with announcement interface (05 0024 01)
- OSYlink AS-CCS (77 0870 00) (+ devices of a legacy system connected to OSYlink AS-CCS)
- OSYlink AS-L200 (77 0872 00) (+ devices of a legacy system connected to OSYlink AS-L200)

The maximum cable length of the OSYnet group bus amounts to 700 m.

The cable length between the IP-SystemManager and the next active IP network component (e.g., switch) may not exceed 90 m.

The IP-SystemManager must be installed at the beginning or end of the OSYnet group bus.

3.3.4 Rooms

The RAN room bus that networks the devices in the room to each other is connected to the room terminal (i.e., ComTerminal, RoomTerminal or ControlTerminal).

The total length of all RAN lines connected to a terminal may not exceed 50 m.

A maximum of 30 RAN users can be connected to a RAN room bus. RAN users are as follows:

Connection sockets

- Connection socket with call switch, bedhead unit (70 0171 50)

- Connection socket with call switch (70 0171 60...)
- Connection socket combi (70 0424 00, 70 0425 00, 70 0424 50, 70 0425 50)
- Connection socket combi, bedhead unit (70 0434 00, 70 0435 00, 70 0434 50, 70 0435 50)

Room lamps

- Room lamp, 3 sections (77 0170 00, 77 0171 00, 77 0175 00)
- Room lamp cardiac alarm, WC (77 0170 01, 77 0175 01)
- Room lamp, 4 sections (77 0170 10, 77 0171 10, 77 0175 10)

Switches

- Call switch (77 0211 00..., 77 0211 01...)
- Staff presence switch (77 0212 00...)
- Cancel switch/WC (77 0213 00...)
- Cardiac alarm switch (77 0214 00...)
- Pull cord call switch (77 0215 00..., 77 0215 01...)
- Pneumatic call switch (77 0216 00..., 77 0216 01...)
- Call switch/WC with cancel switch (77 0217 00...)
- Call switch with privacy switch (77 0218 00...)
- Staff presence combination with call tone (77 0219 00...)

RAN interfaces

- IR TV control module universal (77 0360 11)
- RAN interface (77 0840 00)
- RAN interface universal (70 0848 00)
- RAN interface with speech (77 0880 00)

A maximum of 6 bed can be identified as call locations for each room.

3.3.5 Configuration possibilities for the organisation of care

- 32 ward couplings can be defined for each nurse call system.
- 8 shifts can be defined for each ward. Each shift can consist of 8 zones.

4. Interfaces

Interfaces in the room, in the ward, and centralised interfaces are available for Flamenco^{IP} nurse call systems.

4.1 Interfaces in the room

4.1.1 Lighting control

The patient handset (74 0747 00) is equipped with 2 light switches to switch the reading light and room light. The pear push switch with call and light switch provides one switch to switch the light. For information on selecting the light relays refer to chapter 12. “Light control” on page 65.

4.1.2 Entertainment/television

The patient handset (74 0747 00) can transmit entertainment and TV sound through the integrated loudspeaker or connected headphones. The open sound is switched off when the headphone cord is inserted.

Up to 5 installed entertainment programmes are connected via connection socket combi or connection socket combi, bedhead unit. Switching on/off, programme selection and setting the volume can be performed using the buttons of the patient handset.

The IR TV control module universal (77 0360 11) enables the control of a television (e.g., from Samsung, Philips or LG). The TV sound is transmitted to the patient handset. Switching off, programme selection and setting the volume can be performed using the buttons of the patient handset.

The TV audio amplifier (77 0365 00) enables the transmission of the sound of any television (with headphone jack) via the patient handset. In the case of this application, the TV is not controlled with the patient handset.

Tunstall itself offers televisions (Hospital LED TV, professional) that can be controlled by the patient handset in connection with the RAN interface (77 0840 00). The TV sound is transmitted through the patient handset. Switching on/off, programme selection and setting the volume can be performed using the buttons of the patient handset.

4.1.3 Call devices

In addition to the wired call devices, wireless call devices can also be used. Radio Receiver T (Z 00 8202 33) can be connected to the connection sockets in the socket of the pear push switch. Radio Receiver-T receives the signals of the radio trigger MyAmie (P68007/02), fall detector iVi (P68005/47) and other radio transmitters from the Tunstall Telecare portfolio.

Note: The radio transmission is not monitored. The radio transmitters must therefore be used only as additional call devices in connection with the nurse call system.

The RAN interface (77 0840 00) is available for the connection of system-external call devices. In addition to triggering the “Call”, “Alarm” or “WC Call” call type, this interface provides the location light and reassurance light function, as well as a bed identification function.

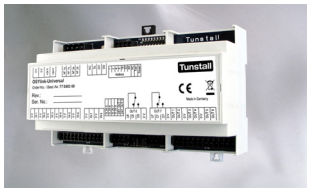
4.1.4 Patient devices

At the patient bed, the control devices of other manufacturers can be used instead of

the patient handset. Patient telephones with an integrated call switch for nurse call, for example, are suitable for this purpose. The connection of the call switch and telephone speech channel can take place in the room using the RAN interface with speech (77 0880 00). The selection of the external device must be coordinated with Tunstall GmbH.

4.2 Interfaces at the ward

4.2.1 OSYlink-Universal



OSYlink-Universal
(77 0803 00)

The interface OSYlink-Universal (77 0803 00) is available as an interface for the connection of external systems and/or technical equipment to the group bus (OSYnet).

Inputs and outputs

- 4 monitored inputs:
  - 2x Call
  - Emergency call
  - Cardiac alarm (code blue)
- 1 input: collective announcement (all wards)
- 1 input: collective announcement (all presences)
- 1 input “Initiate call” and 1 associated input “Cancel call”
- 4 solid state outputs, configurable. Factory setting:
  - 2x Call
  - Emergency call
  - Cardiac alarm (code blue)
- 1 solid state output, can be configured
- 1 output with location light function (functionally associated to the call inputs)
- 2 potential free outputs, configurable (change-over contact, voltage source selectable by jumper)

The outputs are configured centrally using the SystemOrganizer.

4.2.2 Connection of legacy systems

Flamenco^{IP} provides the option of connecting wards with legacy systems manufactured by Tunstall GmbH to the Flamenco^{IP} nurse call system. For this purpose, the ward bus of the legacy system is connected to the Flamenco^{IP} nurse call system through an OSYlink AS interface module. OSYlink AS is intended for installation into ward distributors or installation rooms. Two different OSYlink AS interface modules are available:

OSYlink AS type	Connect-able legacy systems
 OSYlink AS-CCS (77 0870 00)	■ EccoLine with speech ■ NewLine C201 ■ NewLine ■ CCS 2000 G ■ CCS 1080 G ■ CCS 1080 W
 OSYlink AS-L200 (77 0872 00)	■ EccoLine L200 ■ NewLine L200

Tab. 2: Modules for the connection of legacy systems

Important note

Existing projects are often complex in structure (project history, customized solutions, existing cabling, etc.) That‘s why the functionality has to be checked in case of using the OSYlink AS interface modules for each single project.

OSYlink AS-CCS

OSYlink AS-CCS converts the data and speech signals of the ComTerminals of the legacy system into compatible signals for the Flamenco^{IP} system. In this way, it is possible to operate individual wards with legacy technology together and compatibly in a Flamenco^{IP} system environment. For connecting a half-duplex speech system additionally a speech amplifier with the power supply unit is required. This component was generally already part of the legacy system.

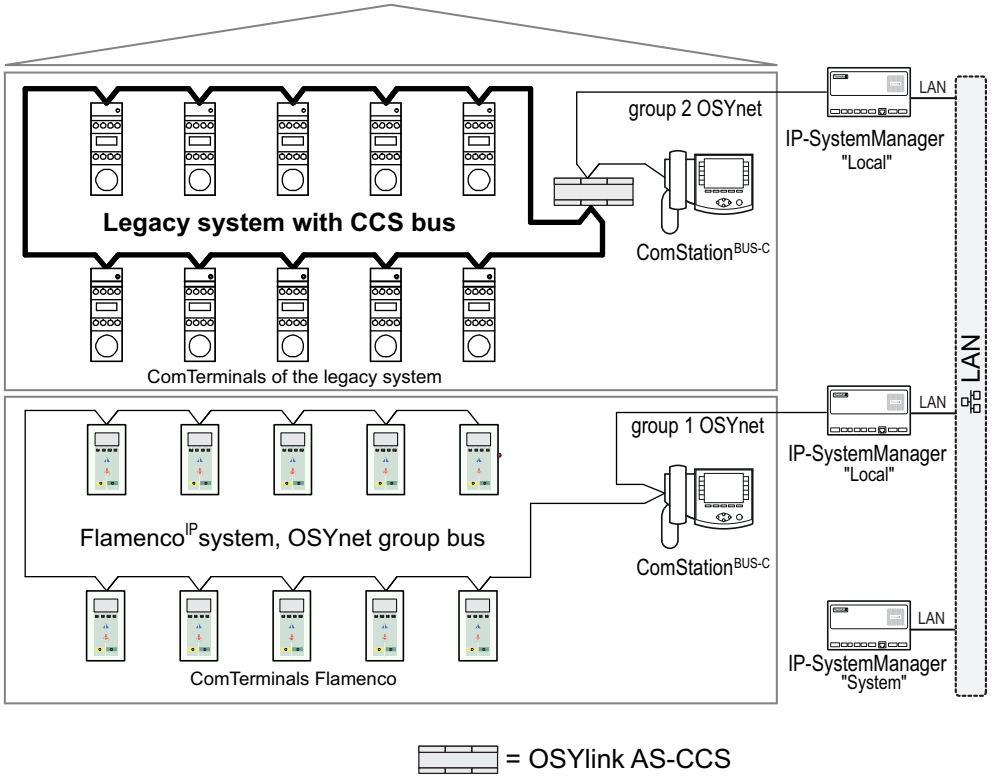


Fig. 6: A ward of a legacy system with CCS bus connected to Flamenco^{IP}

OSYlink AS-L200

OSYlink AS-L200 converts the data signals of the room terminals and L200 universal interfaces of the legacy system into compatible signals for the Flamenco^{IP} system. In this way, it is possible to operate individual wards with legacy technology together and compatibly in a Flamenco^{IP} system environment.

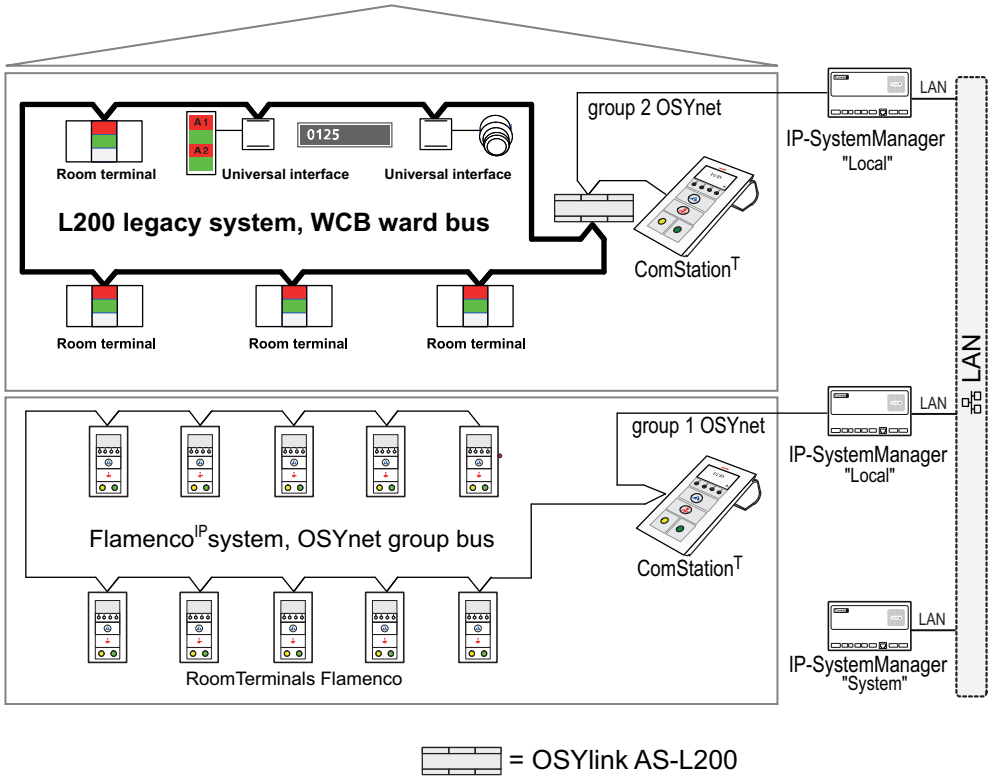


Fig. 7: A ward of a L200 legacy system connected to Flamenco^{IP}

4.3 Centralised interfaces of the nurse call system

4.3.1 Radio paging system, DECT without speech

Radio paging systems or DECT telephone systems can be connected to the nurse call system. The protocol is based on ESPA 4.4.4. Pending call messages from the nurse call system can be forwarded to nursing staff equipped with pagers or DECT telephones.

The factory settings of the ESPA interface are as follows: 1200 baud, 7 bits, even parity, 2 stop bits. Format: <event identifier> <space> <ward name> <space> <room name> <space>.

4.3.2 Telephony

The telephony infrastructure of the hospital can also be used for voice communication with the nurse call system. The telephone user will not notice the difference in the speech channel.

Even if an external device does not work because the PBX has failed, the Flamenco^{IP} nurse call system guarantees that an existing call is displayed within the nurse call system.

4.3.3 Hospital information system

For the support of the nursing staff, patient data can be displayed during call processing – this data is then retrieved from the hospital information system. The data is displayed in the PrimusGlobal+ software. The system driver HL7 establishes the connection between the hospital information system and the PrimusGlobal+ software family. Defined data fields are retrieved from the HL7 data record and are available for further display on the ManagementCenter^{PC}. The desired information is selected in close coordination with the customer. The support of various transfer protocols and transmission methods is possible.

4.3.4 Fire alarm system

Defined information from the fire alarm system can be retrieved by the Flamenco^{IP} nurse call system and provided there for further display and processing. The definition of the desired information and prioritisation is established in close coordination with the customer.

5. IP network

Through an IP network (LAN), all IP-SystemManagers of the nurse call system communicate with each other and with external devices or systems (e.g., PBX) connected to the nurse call system through the IP network. A ManagementCenter^{PC} is also connected to the nurse call system through the IP network. Both data and voice (VoIP) are exchanged through the IP network. In the process, the network can be set up exclusively for the nurse call system or as part of the existing IP infrastructure on site.

The following describes basic requirements on a network and individual components to enable the secure communication of the nurse call system.

These are minimum requirements that must be coordinated with the respective person responsible for IT. From the viewpoint of IT, requirements on the nurse call system can also result in order to use the existing networks together and securely.

5.1 Requirements for integration into networks

The Flamenco^{IP} nurse call system is a nurse call system according to standard DIN VDE 0834 that can be integrated into existing network structures insofar as supported by the necessary standards.

Even though the nurse call system can be integrated into existing infrastructures without a problem, some services (e.g., DHCP) are fundamentally provided by the Flamenco^{IP} nurse call system within the system.

5.1.1 Physical connection

The components of the Flamenco^{IP} nurse call system can fundamentally be connected in every Ethernet infrastructure based on standard IEEE 802.3 (VLAN tags according to 802.1q are not supported by the components/terminal devices). Connection takes place using 10Base-T/100Base-TX switch ports with auto-sensing of the operating modes. PoE is not required and should be deactivated if possible.

5.1.2 Flamenco^{IP} subnets (Flamenco domains)

All components of the nurse call system must be operated in their own subnets (broadcast domains/LANs/VLANs/LISes) according to the planning documents to avoid interference effects due to external network components. These subnets are called Flamenco domains in the following.

The communication of the system components is implemented through Internet Protocol Version 4 (IPv4) and uses both unicast/broadcast and multicast.

Individual Flamenco domains (subnets) can be connected through existing network infrastructures to realise spatial expansion.

For the problem-free integration of the Flamenco^{IP} systems into existing infrastructures, the following conditions must be fulfilled:

1. The communication of all Flamenco^{IP} system components with each other must be possible in an unlimited manner that is transparent in regard to protocols.

2. Communication with the infrastructure services used (NTP, SIP, etc.) must be possible in an unlimited manner that is transparent in regard to protocols.
3. Insofar as the SystemOrganizer or ManagementCenter is located outside of a Flamenco domain, communication must be possible between the Flamenco domains and this component in an unlimited manner that is transparent in regard to protocols.
4. Network traffic not listed under Items 1 – 3 must not occur in the Flamenco domains.
5. For a problem-free function of the system components, especial in regard to voice integration, a functional IPv4 multicast integration is necessary. Within the Flamenco domains, IGMP in Version 3 must be supported, and IPv4 multicast routing must be supported in the entire infrastructure.
6. The fulfilment of the requirements on transmission quality within the network (bandwidth, latency, jitter, packet loss) must be guaranteed through the implementation of suitable QoS configurations if necessary, refer to chapter 5.4.1 “QoS requirements” on page 29.
7. If a remote maintenance of the system is intended, an unlimited communication between the remote maintenance station and the Flamenco^{IP} system components is required. Terminal devices in the IT infrastructure on which system software is running must also be able to be accessed from the remote maintenance station. The requirements on the transmission quality (Item 6) do not have to be observed for the remote maintenance station.

An overview of the communication relationships and ports used of the Flamenco^{IP} system are located in the appendix of this chapter, refer to chapter 5.4.2 “Communication relationships in the Flamenco^{IP} system” on page 30.

5.1.3 Network services in the existing infrastructure, NTP

In order for a centralised and precise time source to be available for the entire Flamenco^{IP} system, components of the system can call their time information from an NTP server. For this purpose NTP Version 2 (unicast, no authentication) is used.

5.2 Flamenco^{IP}system software on provided computers

The following hardware requirements apply to non-virtualized environments. In the case of virtualization, the overhead of the respective hypervisor must be included in the minimum requirement.

5.2.1 SystemOrganizer

The SystemOrganizer software is the configuration tool for Flamenco^{IP}nurse call systems. It allows the complete parametrisation of the system.

- Operating system: Microsoft Windows 7, Microsoft Windows 10
- CPU: 1 gigahertz (GHz), 32-bit (x86) processor
- Memory: 1 GB RAM (32 bit)
- Free disk space: 16 GB available space

5.2.2 PrimusGlobal+ “Call recording“

Software for supporting the nursing documentation.

Permanent recording of all system events (calls, presences, etc.) with date and time and appropriate information about the data origin e.g. ward and room designation.

Using this software the locations (wards, rooms, etc.) to be analysed can be selected. The data can be filtered according to system event time or system event type (calls, presences, further events).

- Operating system: Microsoft Windows 7, Microsoft Windows 10
- CPU: 1 gigahertz (GHz), 32-bit (x86) processor
- Memory: 1 GB RAM (32 bit)
- Free disk space: 32 GB available space

5.2.3 PrimusGlobal+ “ManagementCenter“

Software for the central call handling console for central processing of all functions within the nurse call system.

Calls from several wards can be displayed.

- Operating system: Microsoft Windows 7, Microsoft Windows 10
- CPU: 1 gigahertz (GHz), 32-bit (x86) processor
- Memory: 1 GB RAM (32 bit)
- Free disk space: 32 GB available space

The ManagementCenter cannot be directly virtualized because it requires special hardware interfaces and failure safety.

5.3 Networking with external systems

5.3.1 Telephony systems

Through connection to an existing telephony system, voice connections can be established between the Flamenco^{IP} system components and terminal devices for telephony. For the integration of the PBX into the network, an alarm server is also required. This alarm server manages the connection between the nurse call system and the PBX.

The physical connection of the alarm server and PBX to the nurse call system is established through LAN, refer to chapter 5.4.3 “Speech networking of the Flamenco^{IP} nurse call system” on page 31.

5.3.2 Alarming systems in LAN

The Flamenco^{IP} nurse call system enables the connection of external alarm systems through the interfaces of the IP-SystemManager.

5.4 Annexes

5.4.1 QoS requirements

For the transmission of voice between the Flamenco domains, the following requirements apply:

- Packet loss: < 1%
- Latency (one-way): < 150 ms
- Average jitter (one-way): < 30 ms
- Bandwidth: 100 kbit per voice connection

The voice data and signalling data have already been marked by the Flamenco^{IP} system components in order to treat them in a prioritised manner within the network infrastructure. Here, the DiffServ method (DSCP – Differentiated Services Code Point) is used and the corresponding DSCP markings between the Flamenco domains must be retained.

For the transmission of voice and signalling data, the following DSCP values are used:

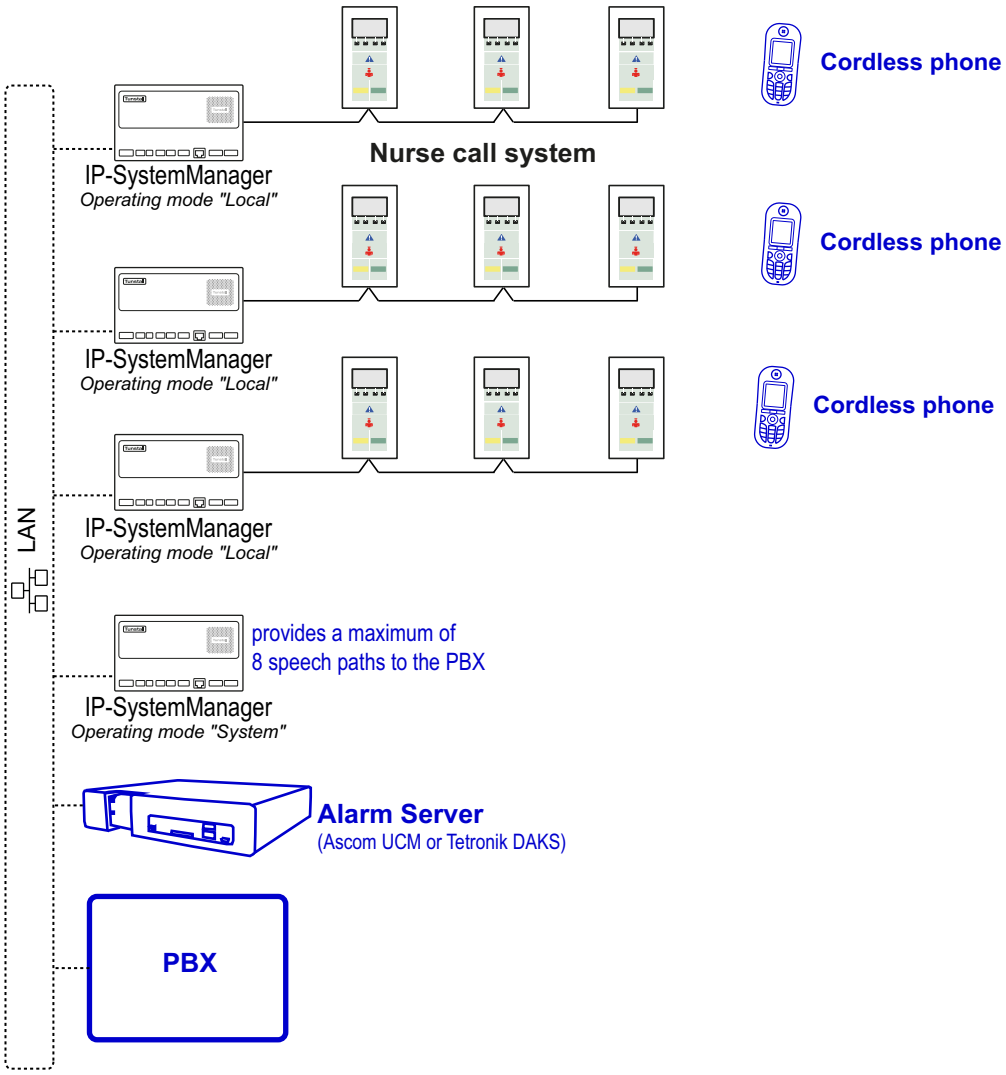
- VoIP voice data DSCP EF
- VoIP signalling DSCP AF31

5.4.2 Communication relationships in the Flamenco^{IP} system

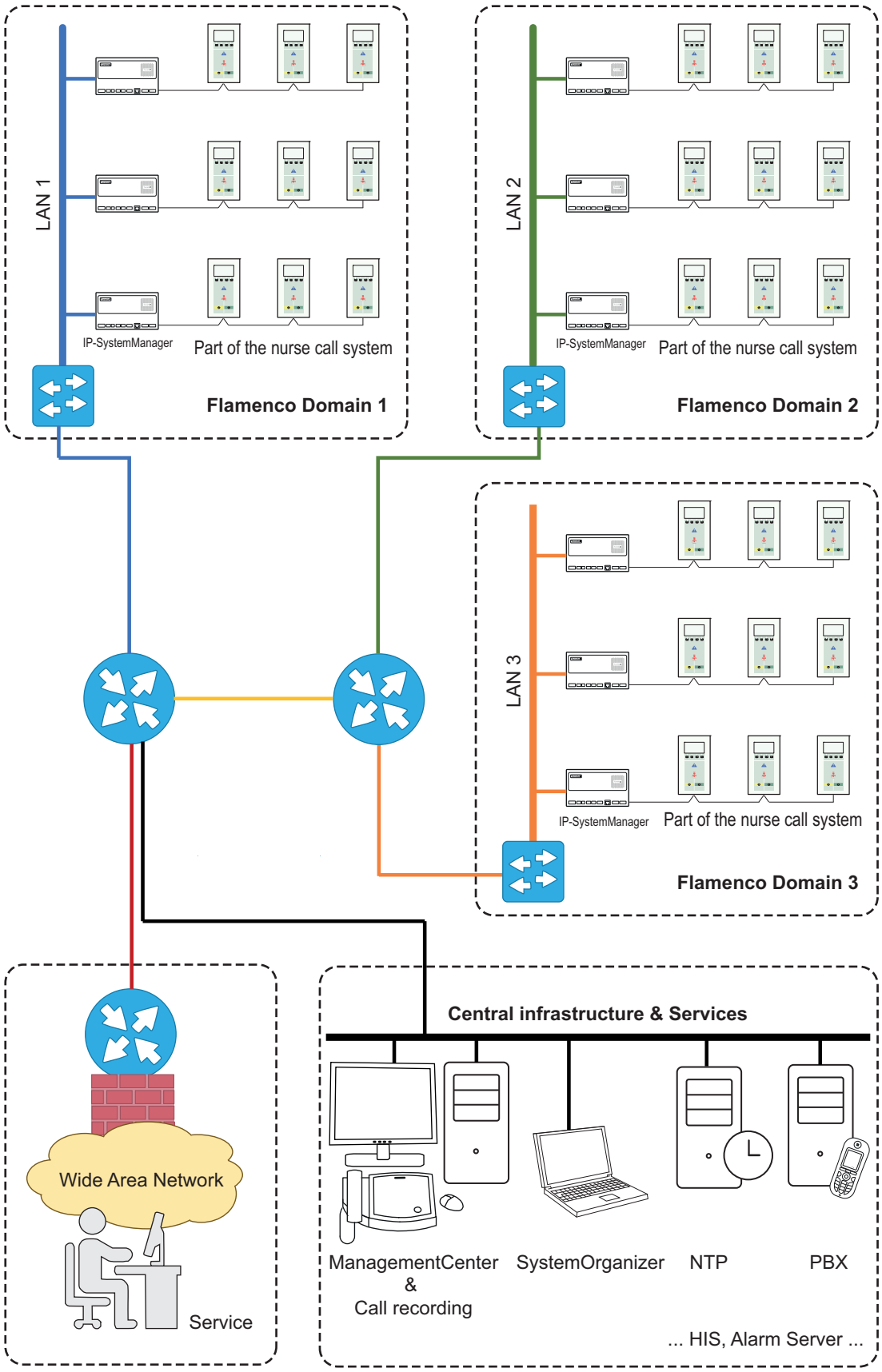
Source			Destination				
System component	**Protocol**	**Port**	**System component**	**Port**	**Application**	**Remark**	**Type ***
IP-System-Manager	UDP	≥ 1024	NTP Server	123	NTP	Synchronization with an external time server	EF
IP-System-Manager	TCP	≥ 1024	IP-System-Manager	4700	MessageServer	The IP-SystemManagers build a network of client/server connections	IF
IP-System-Manager	TCP	≥ 1024	Call handling PC	4700 - 4799	MessageServer	Client/Server connection to the call handling PC	EF
IP-System-Manager	TCP	≥ 1024	IP-System-Manager	4800	TimeSync	The time is synchronized via a TCP socket connection	IF
IP-System-Manager	UDP	≥ 1024	IP-System-Manager	5060, 5061	SIP	Speech connections between wards via SIP	IF
IP-System-Manager	UDP	≥ 1024	Com-Station^{TEL}	5060, 5061	SIP	Speech connections to the ComStation^{TEL} via SIP	F
IP-System-Manager	MCAST	≥ 1024	IP-System-Manager	5555	RTP	Streams speech to multicast addresses when making announcements. Default 239.255.255.245-239.255.255.252.	IF
Configuration PC	TCP	≥ 1024	IP-System-Manager	21	FTP	Serves for configuration with the SystemOrganizer	EF
IP-System-Manager	TCP	≥ 1024	Configuration PC	20	FTP	Serves for configuration with the SystemOrganizer	EF
Configuration PC	TCP	≥ 1024	IP-System-Manager	23	Telnet	Serves for configuration with the SystemOrganizer	EF
Configuration PC	TCP	≥ 1024	IP-System-Manager	22	SSH/SCP	Serves for configuration with the SystemOrganizer	EF
IP-System-Manager	TCP	≥ 1024	Com-Station^{TEL}	80/443	HTTP	Provides entry masks for the ComStation^{TEL}	EF

*** Used abbreviations for type:**	
F	Flamenco - Intra domain communication
IF	Flamenco - Inter domain communication
EF	Flamenco - External services

5.4.3 Speech networking of the Flamenco^{IP} nurse call system



5.4.4 Example for the integration into network infrastructure



5.4.5 Required ports to open for remote maintenance

Remote access by Tunstall is done via VPN access or directly via TeamViewer.

The following ports are required for remote maintenance, depending on the access:

Access	Protocol	Port
TeamViewer	TCP (UDP)	80/443/(5938)

For troubleshooting via remote maintenance, e. g. for pinging devices, the Internet Control Message Protocol (ICMP) must be enabled or temporarily enabled in the network.

6. Installation work sequence

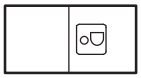
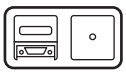
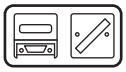
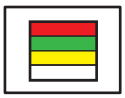
As a rule, you install the nurse call system on a ward-by-ward basis. This means that you first install a ward, put it into operation and then install the next one. The steps are always the same.

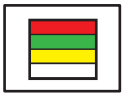
	Work step	Description
1.	Defining the mounting positions.	You will find information about this in the Flamenco^{IP} Planning Manual, chapter “Mounting positions“. You can download the planning manual from the following website: http://www.tunstall.de/artikelnummer/00881341
2.	Installation of back boxes.	refer to chapter 7. “Installation of back boxes” on page 37.
3.	Laying the cables.	refer to chapter 8. “Laying the cables” on page 41.
4.	Mounting and connecting devices (incl. factory-configured IP-SystemManager, operating mode “Local”).	refer to chapter 16. “Product leaflets” on page 113.
5.	Commissioning installed, configured IP network.	refer to chapter 5. “IP network” on page 25.
6.	Mounting and connecting factory-configured IP-SystemManager, operating mode “System” or “System + Local”.	refer to chapter 16. “Product leaflets” on page 113.
7.	Switching on and checking of power supply.	refer to chapter 9. “Activating the power supply” on page 51.
8.	Configuring the room terminals (ComTerminal Flamenco, RoomTerminal Flamenco, ControlTerminal Flamenco, ControlTerminal with doorplate Flamenco).	For ComTerminal Flamenco, RoomTerminal Flamenco: refer to chapter 16. “Product leaflets” on page 113. ControlTerminal Flamenco, ControlTerminal with doorplate Flamenco: refer to online help delivered with the ControlTerminal ConfigSet (order no. 77 0920 00).
9.	Commissioning the ward console (ComStation^{BUS-C}, ComStation^{PC}, ComStation^{CT} Flamenco) or ComStation^{T} Flamenco	refer to the documents delivered with the ward console.
10.	Connecting and commissioning the ManagementCenter.	refer to the ManagementCenter online and the product leaflet for the ManagementCenter, refer to chapter 16. “Product leaflets” on page 113.
12.	Functional check of the system.	refer to chapter 10. “Functional checks” on page 53.

7. Installation of back boxes

Install the back boxes at the defined mounting positions. You will find information about defining mounting positions in the Flamenco^{IP} Planning Manual, chapter “Mounting positions”. You can download the planning manual from the following web-site: *http://www.tunstall.de/artikelnummer/00881341*.

			Back boxes				Connector
			solid wall		partition wall		
			1-gang 17 0100 00	2 -gang 17 0410 00	1-gang 17 5100 00	2-gang 17 5400 00	70 0807 00
	77 0211 00... ... = A, C, F	Call switch	●		●		●
	77 0211 01... ... = A, C, F	Call switch/WC	●		●		●
	77 0212 00... ... = A, C, F	Staff presence switch	●		●		●
	77 0213 00... ... = A, C, F	Cancel switch/WC	●		●		●
	77 0214 00... ... = A, C, F	Cardiac alarm switch	●		●		●
	77 0215 00... ... = A, C, F	Pull cord call switch	●		●		●
	77 0215 01... ... = A, C, F	Pull cord call switch/WC	●		●		●
	77 0216 00... ... = A, C, F	Pneumatic call switch	●		●		●
	77 0216 01... ... = A, C, F	Pneumatic call switch/ WC	●		●		●
	77 0217 00... ... = A, C, F	Call switch/WC with cancel switch	●		●		●
	77 0218 00... ... = A, C, F	Call switch with privacy switch	●		●		●
	77 0219 00... ... = A, C, F	Staff presence combination with call tone	●		●		●

			Back boxes				Connector
			solid wall		partition wall		
			1-gang 17 0100 00	2 -gang 17 0410 00	1-gang 17 5100 00	2-gang 17 5400 00	70 0807 00
	70 0171 60... ... = A, C, F	Connection socket with call switch	●			●	00 0211 37 + cable: 50 0308 02
	70 0171 50	Connection socket with call switch, bedhead unit	built-in medical supply unit				00 0211 37 + cable: 50 0308 02
	70 0424 00 70 0425 00	Connection socket combi		●		●	
	70 0424 50 70 0425 50	Connection socket combi, TVL		●		●	
	70 0434 00 70 0435 00	Connection socket combi, bedhead unit	built-in medical supply unit				cable: 50 0308 02
	70 0434 50 70 0435 50	Connection socket combi, bedhead unit, TVL					cable: 50 0308 02
	74 0452 30	Connection socket ComStation		●		●	
	74 0452 60A	Connection socket ComStation^{PC}		●		●	
	77 0510 00	ComTerminal Flamenco		●		●	
	77 0520 00	RoomTerminal Flamenco		●		●	
	77 0550 00	ControlTerminal Flamenco		●		●	77 0960 00
	77 0551 00	ControlTerminal with doorplate Flamenco		●		●	77 0960 00
	77 0111 02	Direction lamp	●		●		

			Back boxes				Connector
			solid wall		partition wall		
			1-gang 17 0100 00	2 -gang 17 0410 00	1-gang 17 5100 00	2-gang 17 5400 00	70 0807 00
	77 0112 02	Group lamp, 2 groups	●		●		
	77 0113 02	Group lamp, 3 groups	●		●		
	77 0114 02	Group lamp, 4 groups	●		●		
	77 0170 00	Room lamp, 3 sections	●		●		●
	77 0170 01	Room lamp Alarm, WC	●		●		●
	77 0170 10	Room lamp, 4 sections	●		●		●
	77 0171 00	Room lamp, 3 sections, with doorplate	●		●		●
	77 0171 10	Room lamp, 4 sections, with doorplate	●		●		●
	77 0175 00	Room lamp, 3 sections, glass decor	●		●		●
	77 0175 01	Room lamp cardiac alarm, WC, glass decor	●		●		●
	77 0175 10	Room lamp, 4 sections, glass decor	●		●		●
	77 0182 10	Room lamp universal, 2 sections	●		●		70 0807 07
	77 0185 20	Room lamp universal, 2 sections, glass decor	●		●		70 0807 07
	77 4000 00	OSYnet-Y-RepeaterOpto					77 0950 00

Tab. 3: Back boxes and connectors

8. Laying the cables

WARNING! When laying the cables, closely observe the current rules!

8.1 Cable legend

To simplify the handling of installation plans, Tunstall GmbH has introduced an expanded cable legend. The cables are organised according to their application areas. Relevant types of cables are allocated to specific application areas. These shall be considered as minimum requirements.

Marking	Designation	Cable type
Ia	General cables	IY(ST)Y 2x2x0.8
Ia2	General cables	IY(ST)Y 2x2x0.6
Ia3	General cables	IY(ST)Y 3x2x0.6
Ia4	General cables	IY(ST)Y 4x2x0.6
Ia5	General cables	IY(ST)Y 4x2x0.8
OSYnet	OSYnet group bus	Recommended cables: CAT7 (22 AWG) with diameter = 0.64 mm IY(ST)Y 4x2x0,8 with diameter = 0.8 mm Optional cables: CAT5 (23 AWG) with diameter = 0.57 mm CAT6 (23 AWG) with diameter = 0.57 mm CAT7 (23 AWG) with diameter = 0.57 mm IY(ST)Y 4x2x0,6 with diameter = 0.6 mm
Ie	Entertainment cables	2x IYY per channel or similar cables (1 double wire required for each programme)
In	RAN room bus	IY(ST)Y 2x2x0.8
Ip	Power cable	NYM 2x2.5 mm²
Is	Speech line plus RAN room bus	2x IY(ST)Y 2x2x0.8

Tab. 4: Cable legend

8.2 Electromagnetic compatibility (EMC)

All electronic components of the nurse call system emission and sensibility values are well within the prescribed parameters for electromagnetic compatibility (EMC). Nevertheless, interference with the nurse call system may occur in specific situations and due to insufficient interference suppression of fluorescent lamps - particularly in medical supply units.

Customers should make provisions which prevent such interference from external sources. In many cases, this type of external interference can be avoided by installing suppressor elements (varistor circuits). These varistor circuits are commercially available from the manufacturers. Tunstall offers a proven over-voltage filter 230 V (70 0890 97).

The EMC properties of the various electro medical supply units may differ to a great extent. Even two supply units of the same type may act and react with considerable difference if they are wired in different ways.

Normally, call systems are widely distributed over the building, and their EMC behavi our is affected by the specific design and layout of the network.

This situation should also be considered when effecting changes or amendments to existing medical supply units.

8.2.1 Spacing to cables with dangerous voltage

Power cables for the nurse call system must not be laid along with the cables of the low-voltage system or with cables of other systems of dangerous voltage in common cables, conduits or cable trays.

Cables for the nurse call system and cables of the low-voltage system must be placed at a minimum spacing of 30 cm. For shorter distances of less than 10 m the spacing may be reduced to 10 cm.

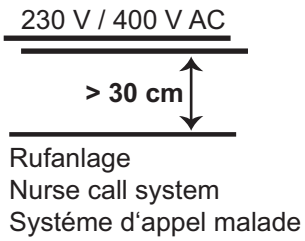


Fig. 8: Spacing to cables of the low-voltage system

For laying nurse call system cables in medical supply units the regulations of ISO 11197 have to be observed.

8.3 OSYnet group bus

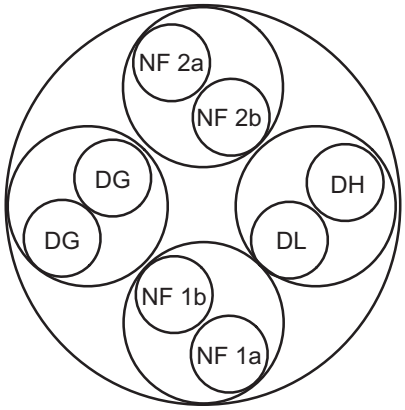
The following types of cables are recommended for the OSYnet group bus:

- CAT7 (22 AWG) with diameter Ø = 0.64 mm
- IY(ST)Y 4x2x0.8 with diameter Ø = 0.8 mm

The following types of cables may be used optionally:

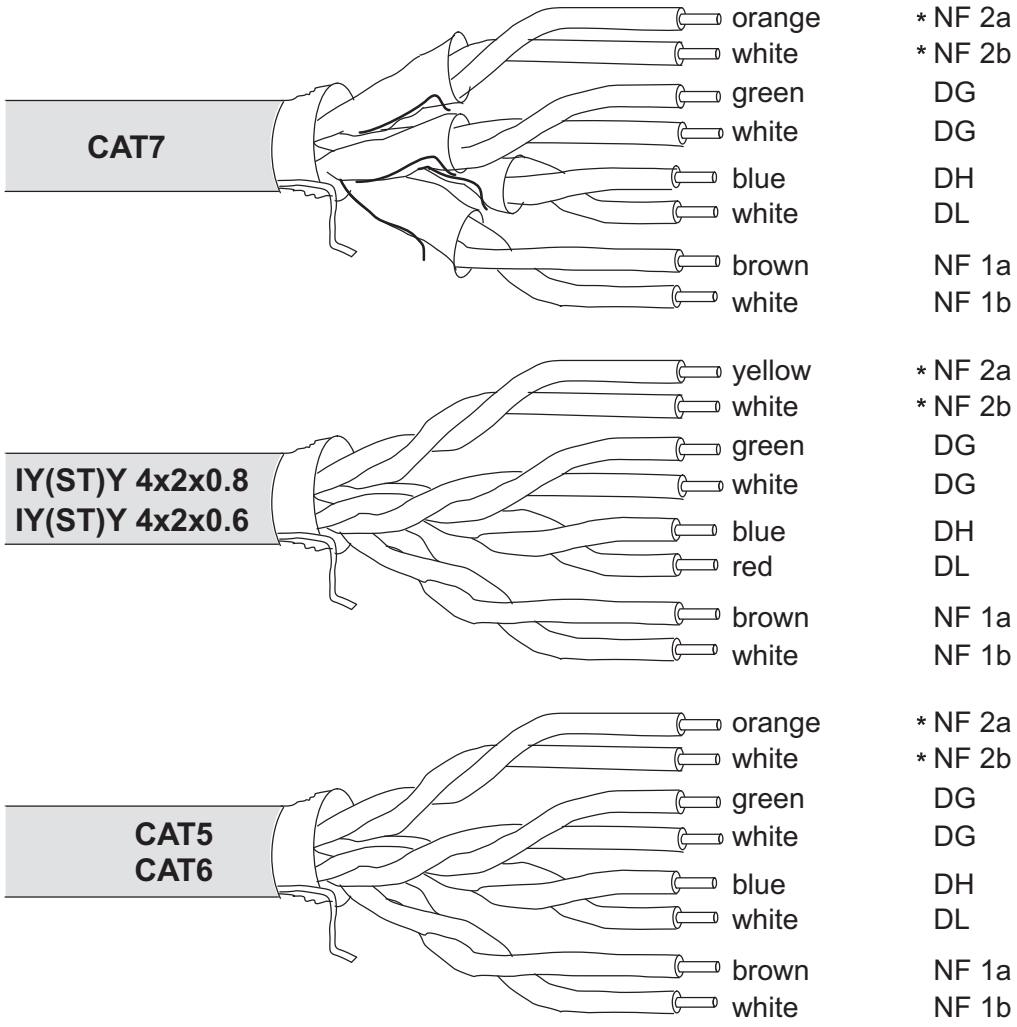
- CAT5 (23 AWG) with diameter Ø = 0.57 mm
- CAT6 (23 AWG) with diameter Ø = 0.57 mm
- CAT7 (23 AWG) with diameter Ø = 0.57 mm
- IY(ST)Y 4x2x0.6 with diameter Ø = 0.6 mm

Theses cables are twisted in pairs with the following design:



WARNING! No stub lines may be installed for the OSYnet group bus. All devices must be directly connected to the bus.

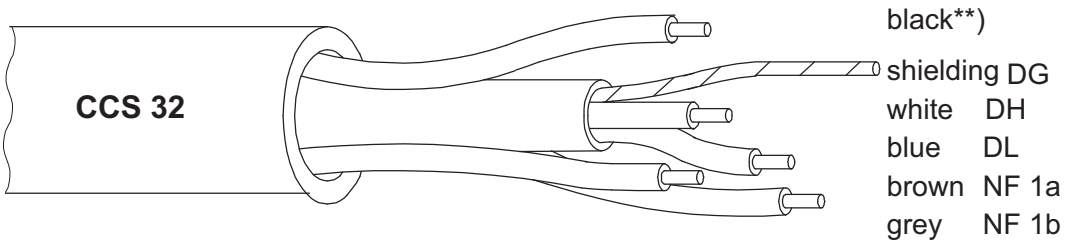
8.3.1 Prescribed cable assignment



NOTE! * Flamenco^{IP} uses NF 1a and NF 1b for the speech transmission. NF 2a and NF 2b only serve as support points.

8.3.2 CCS 32 cable

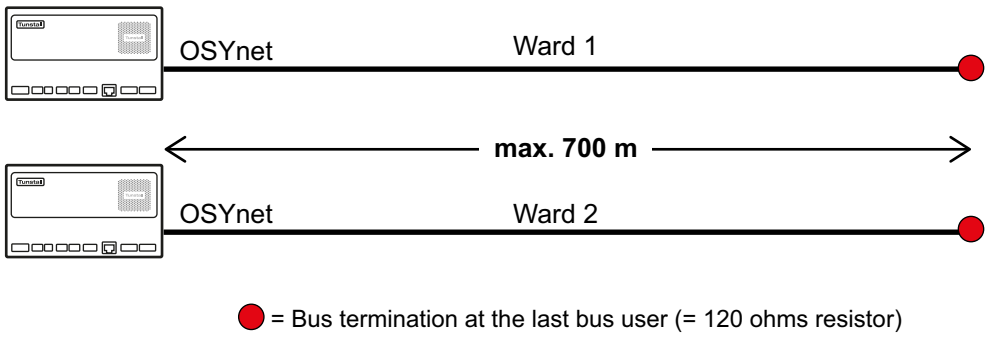
In many earlier projects the system cable CCS32 from Tunstall has been installed. This can still be used for Flamenco^{IP}.



**) The black conductor is not used.

8.3.3 Maximum permissible cable length for OSYnet

The maximum permissible length for the OSYnet group bus is 700 m.



= Bus termination at the last bus user (= 120 ohms resistor)

Bus termination

The last device (e.g. a ComTerminal) at a bus cable must be fitted with a 120 ohms resistor (order no. 00 0040 76) between the connecting points DH and DL.

8.4 Power supply cables (lp)

Electric power for the nurse call system is provided with +24 V DC, which is generated by regulated, short-circuit proof power supply units.

The power supply cable lp is installed as a ring circuit. Cable lengths should be kept as short as possible to preclude larger voltage drops.

Maximum voltage differential from the power supply unit to the farthest room being supplied via the ring circuit should not exceed 4 V.

Where larger voltage drops are observed, another cable should be laid from the supply unit, or a cross linking within the +24 V ring circuit should be realised. If neither solution will solve the problem, a second power supply unit should be installed. Coupling of power supply units in parallel is not allowed.

The power supply ring circuit should be made using cables of 2.5 mm² cross section. Depending on the type of circuit, single core leads (NYA 2.5 mm² for +24V and 0V) or a common cable (NYM 2x2.5 mm²) may be used.

Fig. 9: NYM 2x2,5 mm²

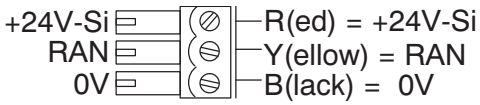
NOTE! When laying the cables, always select the shortest route to keep the resultant voltage drop as low as possible.

Use of logic colour codes for the cables and/or specific laying techniques for the extra-low voltage cables shall eliminate the chance for mix-up with cables of the low-voltage system. If you select to use cable material which is also used for low-voltage systems you should mark and designate these cables clearly and permanently.

Comply with current rules and directives!

8.5 RAN room bus

The RAN room bus (room area network) links all components in a room. The data line consists of three wires:



NOTE!
The total length of all RAN lines connected to a room terminal may not exceed 50 m. A maximum of 30 RAN users can be connected to a RAN room bus.

All devices with RAN interface can be connected at random (star, bus or mesh network). Later expansion of the RAN can be realised from any device and independent of the device's particular function. Only additional devices with speech communication require an extra speech line.

For a better overview, split the various RAN connections into function groups. This type of arrangement is more service-friendly (refer to page 49).

The RAN voltage, i.e. the voltage between “RAN” and “0V”, must be between +8,8 V and +9 V. The voltage between “+24V-Si” and “0V” must be +24 V.

The voltage drop at each cable connection caused by a current of max. 60 mA must not exceed 0.3 V in relation to the voltage at the room terminal. Under normal condition, this value is achieved when a RAN user is connected to a cable of type In, which is longer than 50 m.

8.5.1 RAN room bus without speech (cable type In)

A cable IY(ST)Y 2x2x0.8 is used for the RAN room bus connecting room devices that are not used for speech transmission.

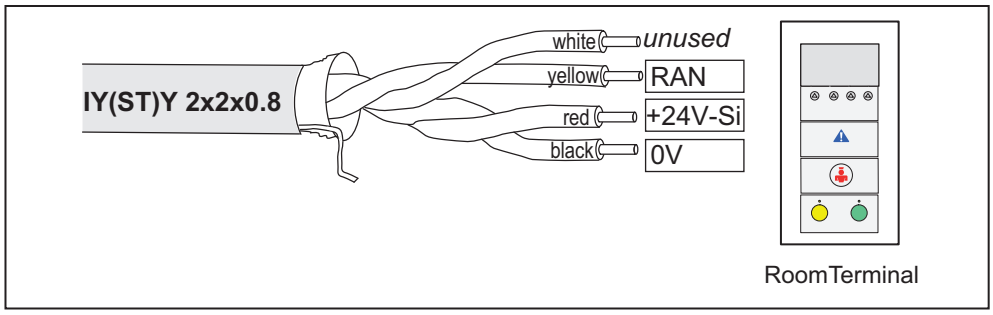


Fig. 10: RAN room bus without speech

Risk of malfunctions in the nurse call system!

- The cable shield and the shield wire of the RAN room bus without speech are not connected and must be removed in the back box up to the cable sheath.
- The unused wires must not be interconnected.

8.5.2 RAN room bus without speech (cable type ls)

Room devices that are used for speech transmission must be wired up with an additional speech line, i.e. 2x IY(ST)Y 2x2x0.8.

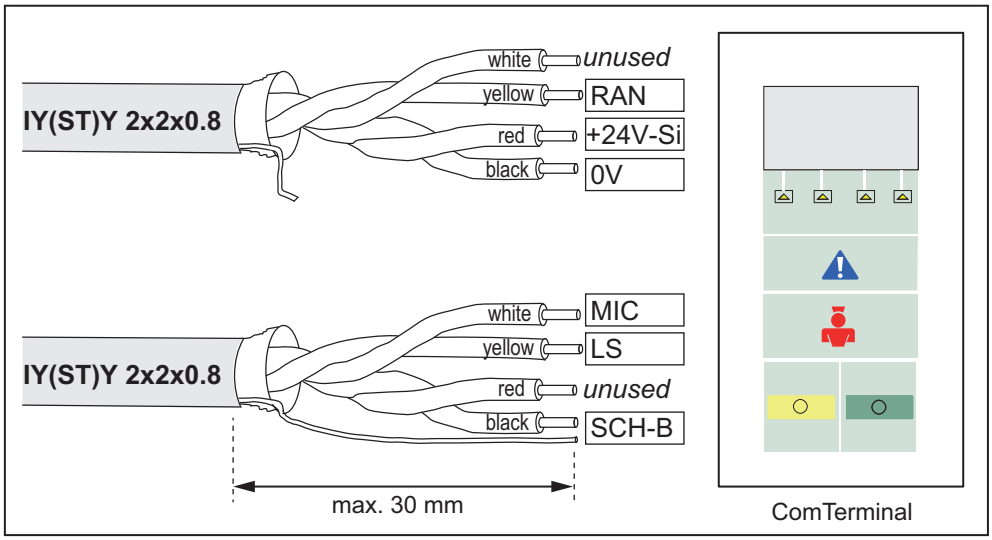


Fig. 11: RAN room bus with speech

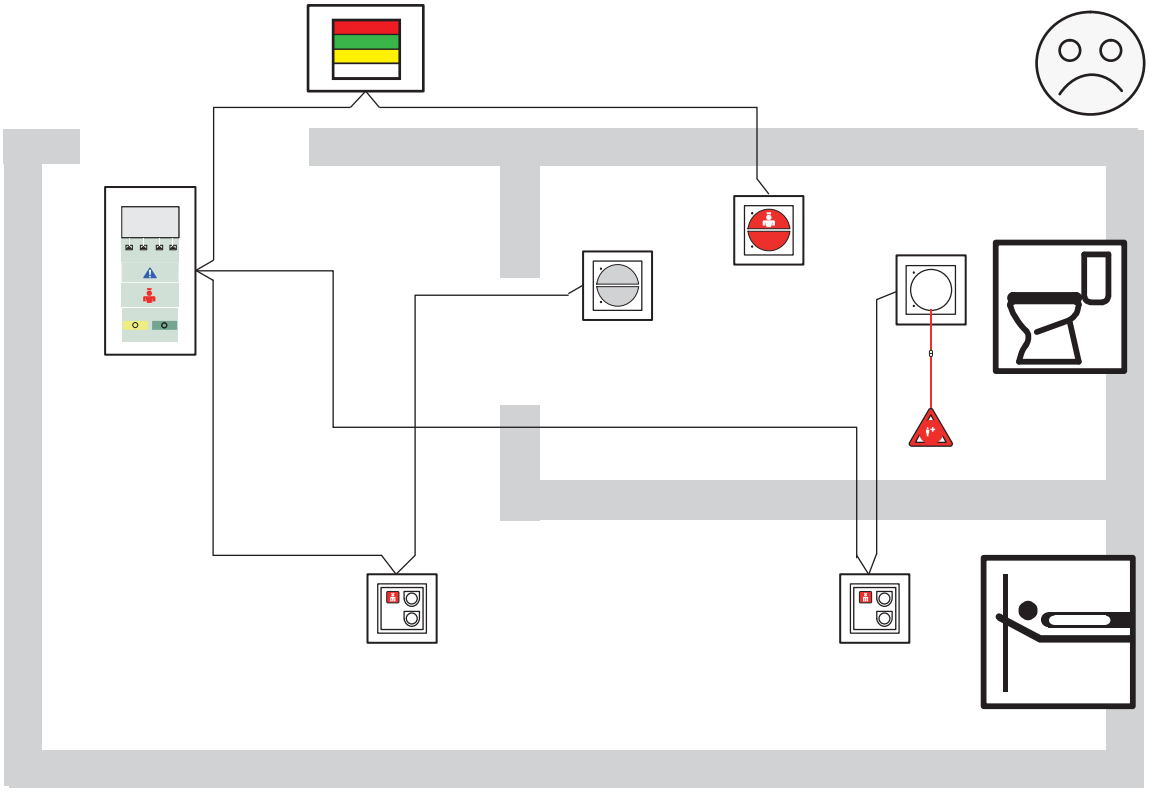
The shield wire of the cable for speech transmission, i.e. the cable containing the wires “MIC”, “LS” and “SCH-B”, is connected to the connection point “SCH-B”.

Risk of malfunctions in the nurse call system!

- The cable for speech transmission, i.e. the cable containing the wires “MIC”, “LS”, and “SCH-B”, may be stripped for a max. of 30 mm only, to ensure the protective screen function. Otherwise, a short circuit situation or crosstalk may occur.
- The cable shield and the shield wire of the cable containing the wires “RAN”, “+24V-Si” and “0V” are not connected and must be removed in the back box up to the cable sheath.
- The unused wires must not be interconnected.

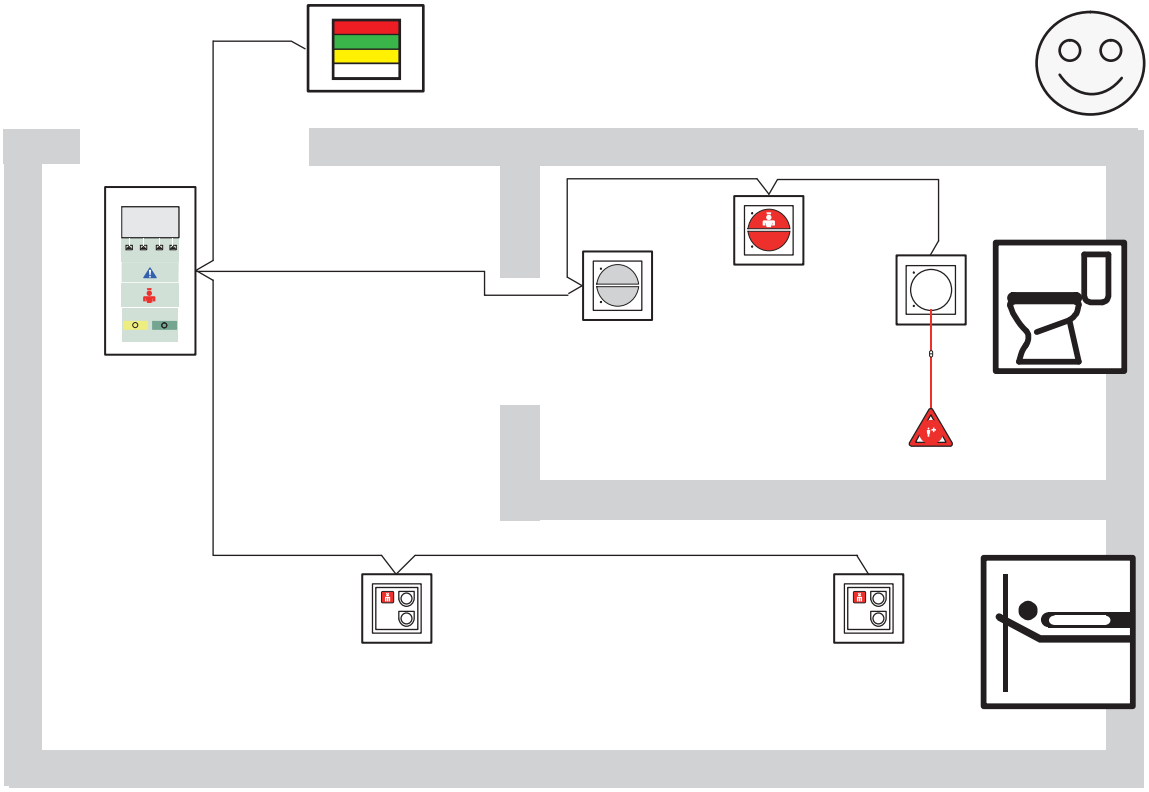
Not service-friendly

confusing = poor installation



Service friendly

clear arrangement = good installation



9. Activating the power supply

Prerequisite: Except the power supply unit, all cables are installed and all devices are connected in compliance with the enclosed product leaflets.

Note: All product leaflets are presented in the appendix “Product leaflets” as of page 113.

9.1 Installing the power supply unit

Before connecting the power supply unit you must check the cables to the power supply unit for possible short circuits and earth interconnections.

Install the power supply unit acc. to the installation instructions coming with the unit. This information is also shown in the chapter “Product leaflets” as of page 113.

9.2 Check the current supply

The operating voltage for the whole system is +24 V DC. Electric current for the system components is supplied through power supply units.

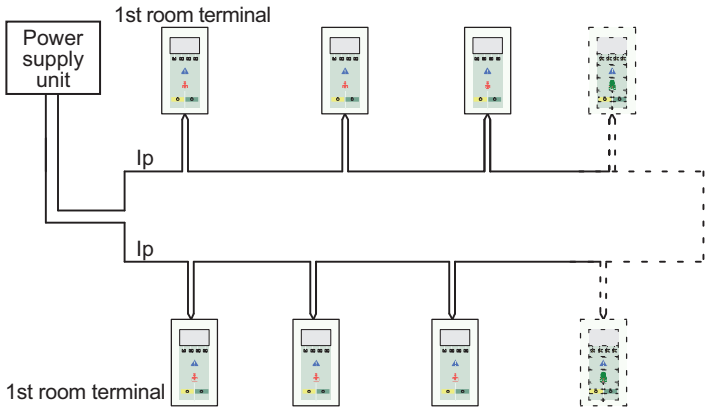
Execute the checks and tests as shown below:

9.2.1 Check output voltage of the power supply unit

Use a voltmeter to confirm the output voltage of +24 V.

9.2.2 Check continuity of +24 V ring circuit

Disconnect one end of the ring circuit at the power supply unit. Switch the power supply unit on and measure the voltage at the open wires. If no voltage is measured, the ring circuit is not closed or one of the conductors (+24 V or 0 V) is interrupted.

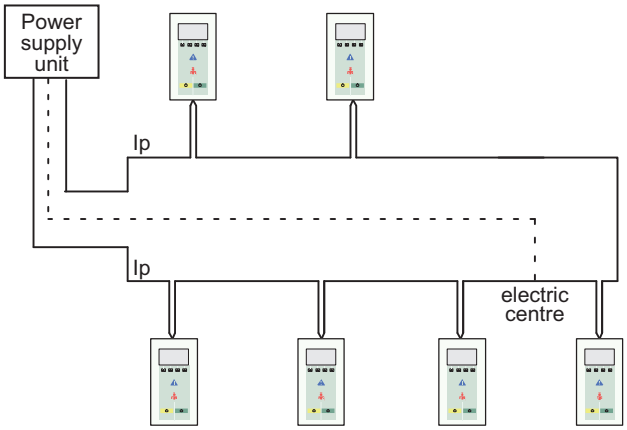


9.2.3 Supply voltage to the room terminals

Activate 5 calls and 5 presence states for the ward which is to be checked. Use the worst location, i.e. the most distant location from the power supply unit.

Test the voltage and determine the room terminal (ComTerminal Flamenco, RoomTerminal Flamenco, ControlTerminal Flamenco or ControlTerminal with doorplate Flamenco) with the lowest voltage. This point is considered as the electric centre of the ring circuit. Here, the voltage differential to the first room terminal as seen from the power supply unit must not be greater than 4 V.

If you should read a lower value (i.e. a drop of more than 4 V) the voltage drop must be reduced by laying an additional cable from the power supply unit to the electric centre - or double the 0 V lead - if it is available.



9.2.4 Check voltage for OSYnet group bus

If the OSYnet group bus is correctly connected: voltage between DH and DG and voltage between DL and DG = approx. +2.5 V.

9.2.5 Check RAN voltage

RAN voltage is o.k. when voltage between B (0V) and Y (RAN) is between +8.8 V and +9 V DC. If the voltage is outside of these parameters, these may be the reasons:

If voltage between B (0V) and Y (RAN) = 0 V
a) Short circuit between B and Y.
b) Wire Y (RAN) is not connected to the terminal.

If voltage between B and Y = +12 V
a) Wire B (0V) is not connected at one of the RAN users.
b) One RAN user is defective.

10. Functional checks

- Check each room for possible faults
- Test light call function for each room
- Test functions between the rooms
- Test the ward consoles
- Test the central console
- Test functions between the wards

NOTE! If the nurse call system shall comply with the German standard DIN VDE 0834, then all tests and checks must be executed as prescribed in this standard. Note: The tests and checks as prescribed by DIN VDE 0834 may go beyond the tests and checks as described in this manual.

10.1 Checking the room installation

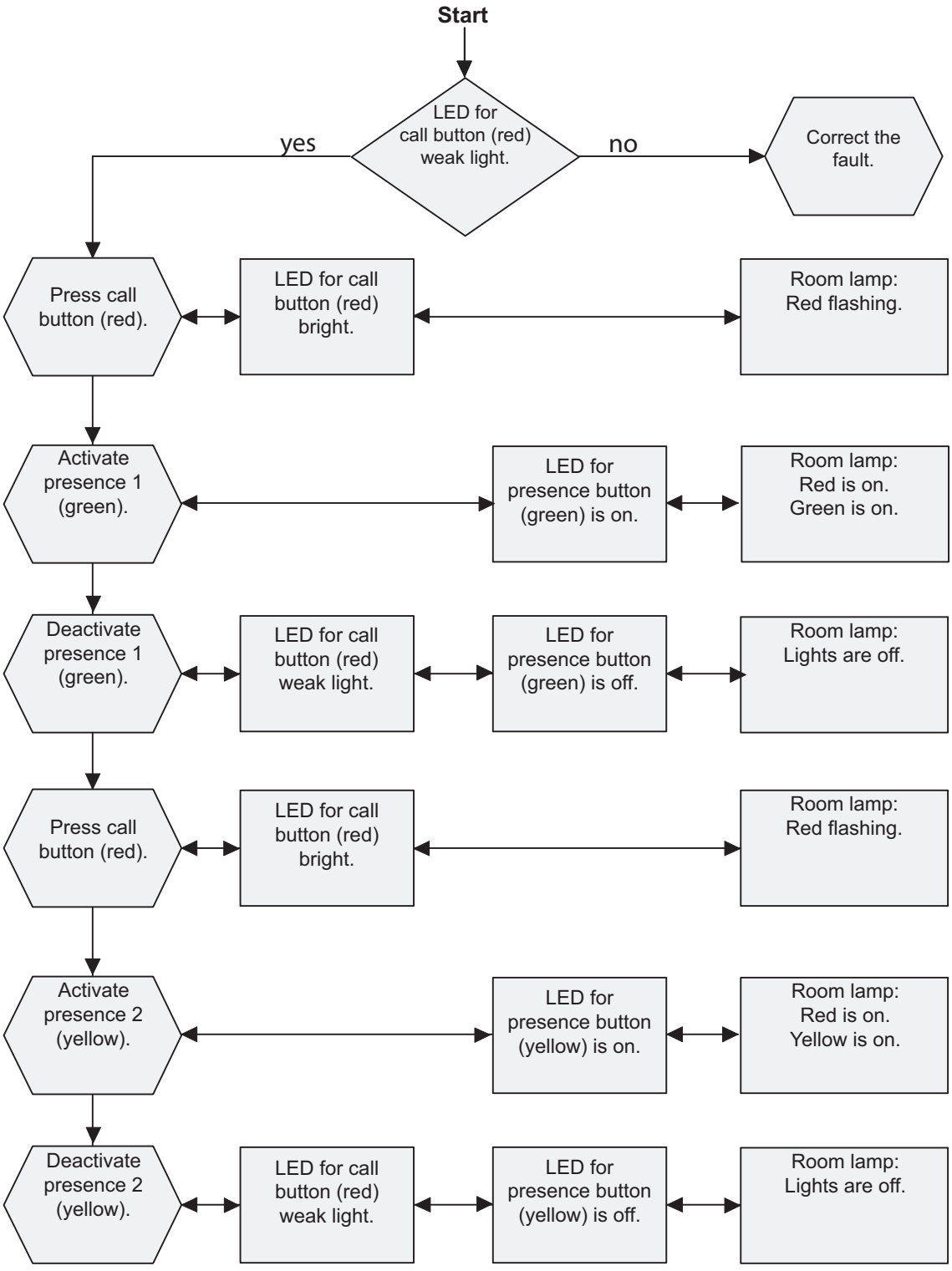
10.1.1 Checking every room for faults

- ComTerminal Flamenco or RoomTerminal Flamenco: Perform the test RAN, as prescribed in the product leaflet for the Terminal. The LEDs of all operational room devices will flash. After that call for the state in the display. If “OK“ is displayed, the number of operational room devices equals to the RAN number set at the Terminal.
- ControlTerminal Flamenco, ControlTerminal with doorplate Flamenco: Perform the test RAN, as prescribed in the product leaflet for the Terminal. The LEDs of all operational room devices will flash. Check whether the number of connected room devices equals to the number of RAN users set with the ControlTerminal ConfigSet.
- No fault may be indicated for the room at any of the following devices: ComStation^{BUS-C}, ComStation^{CT} Flamenco, ComStation^{T} Flamenco, ComStation^{PC}, ManagementCenter^{PC}, IP-SystemManager with operating mode “System” (red LED “Fault”), IP-SystemManager with operating mode “System + Local” (red LED “Fault”), IP-SystemManager with operating mode “Local” (red LED “Fault”).
- Use the patient handset or the pear push switch to check for correct light switching.
- Use the patient handset to check for correct blinds control (if installed).
- Use the patient handset to check for correct entertainment reception (if installed).
- Use the patient handset to check for correct TV control.

10.1.2 Check light call function for each room

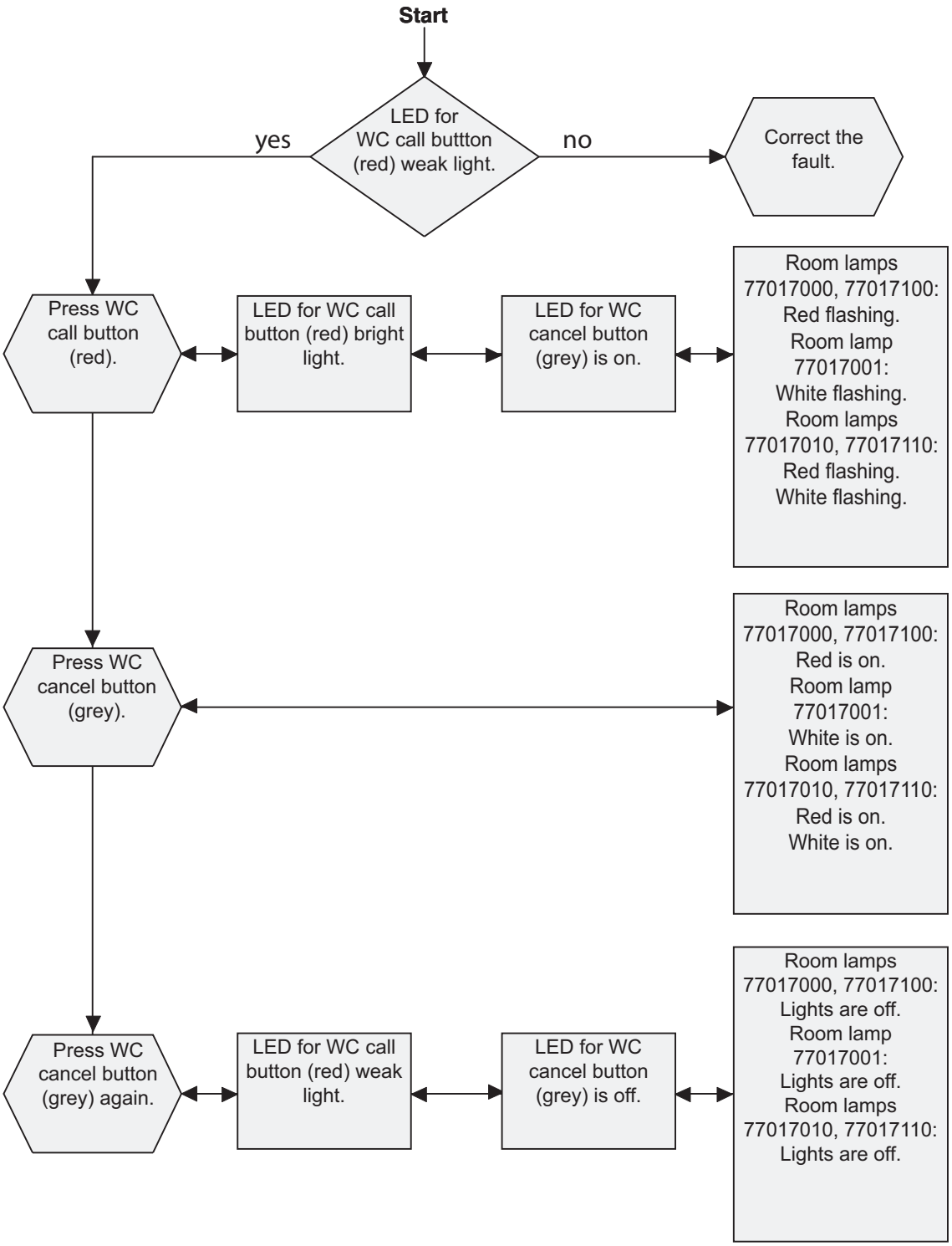
Check the room

Perform the following test for all call devices in the room:



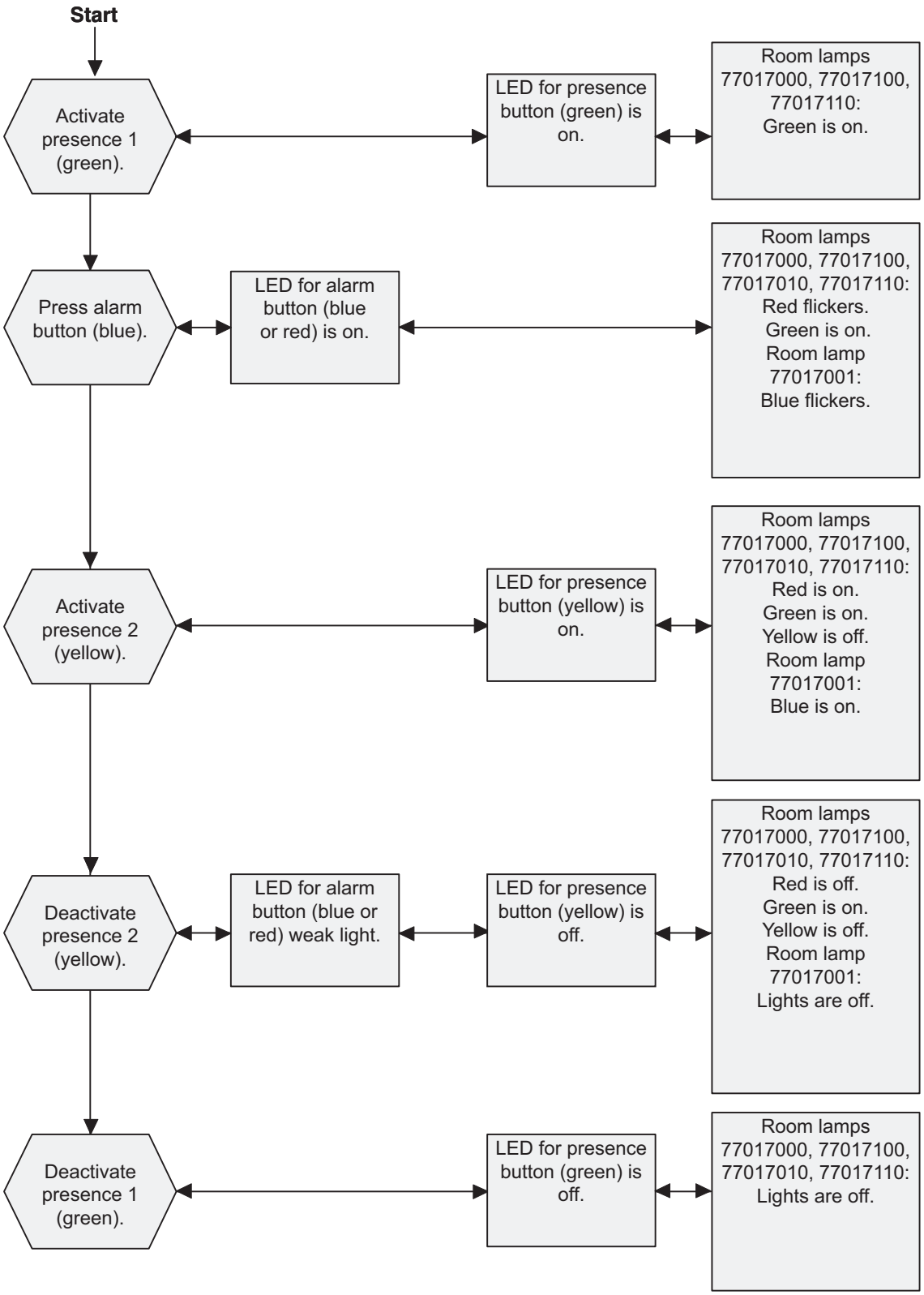
Check function from WC en suite to room

Perform the following test for all call devices in the WC area:



Testing off cardiac alarm

The following test is performed for the alarm button at the ComTerminal (if available), at the RoomTerminal, and for all separate alarm switches:



10.2 Checking the ward functions

10.2.1 Call forwarding

When a call is not answered within a programmed time frame, it will be forwarded to all rooms with activated presence states. Forwarded calls are presented on the display of the ComTerminal Flamenco and of the RoomTerminal Flamenco, and a tone also signals such calls.

The ControlTerminal Flamenco and the ControlTerminal with doorplate Flamenco do not emit a call tone. In rooms with these terminals, the staff presence combination with call tone (77 0219 00...) is used to output the call tone. If a staff presence switch (77 0212 00...) is installed in the room instead of the staff presence combination with call tone, the staff presence switch must be configured so that it emits the call tone. How to configure the call tone is described in the product leaflet for the presence switch.

Rooms with ComTerminal Flamenco

Refer to the operating instructions for the ComTerminal Flamenco for details on the handling of forwarded calls.

Check for each room:

- Is the call forwarding tone audible at the ComTerminal?
- Does the display of the ComTerminals show the correct room number?
- Can the call be answered? Can a speech connection be established to the calling location?
- Can calls of call type “Call“ be cancelled from the remote position?

Rooms with RoomTerminal Flamenco

Refer to the operating instructions for the RoomTerminal Flamenco for details on the handling of forwarded calls.

Check for each room:

- Is the call forwarding tone audible at the RoomTerminal?
- Does the display of the RoomTerminal show the correct room number?
- Can the call be acknowledged?

Rooms with ControlTerminal Flamenco, ControlTerminal with doorplate Flamenco

Check for each room: Is the call forwarding tone audible at the staff presence switch (77 0212 00...) or at the staff presence combination with call tone (77 0219 00...)?

10.2.2 Corridor display

Check whether calls in the ward are correctly indicated at the corridor display.

10.2.3 Direction lamps

Check each direction lamp for the correct indication of the direction for the allocated rooms.

10.2.4 Call devices

Check whether calls from additional call devices (e.g. pear push switches and radio triggers) are indicated as desired.

10.3 Checking the consoles

Perform this test for all installed consoles: Ward consoles, central consoles. For information on the correct operation and use of the consoles refer to the relevant operating instructions or online help.

Two persons are required for executing these checks. One person will handle the console, and the other person will proceed from one room to another.

Check for each room:

- Is the room number correctly displayed?
- Do all types of calls arrive at the console and are they signalled in the appropriate manner (e.g. call type “Call”, WC call, Diagnostic call, Emergency call 1, Emergency call 2, WC emergency call, Cardiac alarm, Telephone call, Door call)?
- Are bed numbers (channel numbers) correctly presented?
- Can calls be answered at the console?
- Can a speech connection be established with the console via speech devices (ComTerminal, patient handset)?
- Are presence states correctly displayed?
- Can announcements be broadcast from the console?

NOTE! If the wrong bed number is set on the connection socket bedhead unit, the medical supply unit must be opened and the correct number must be set (see medical supply unit documentation).

10.4 Checking functions between wards

Check:

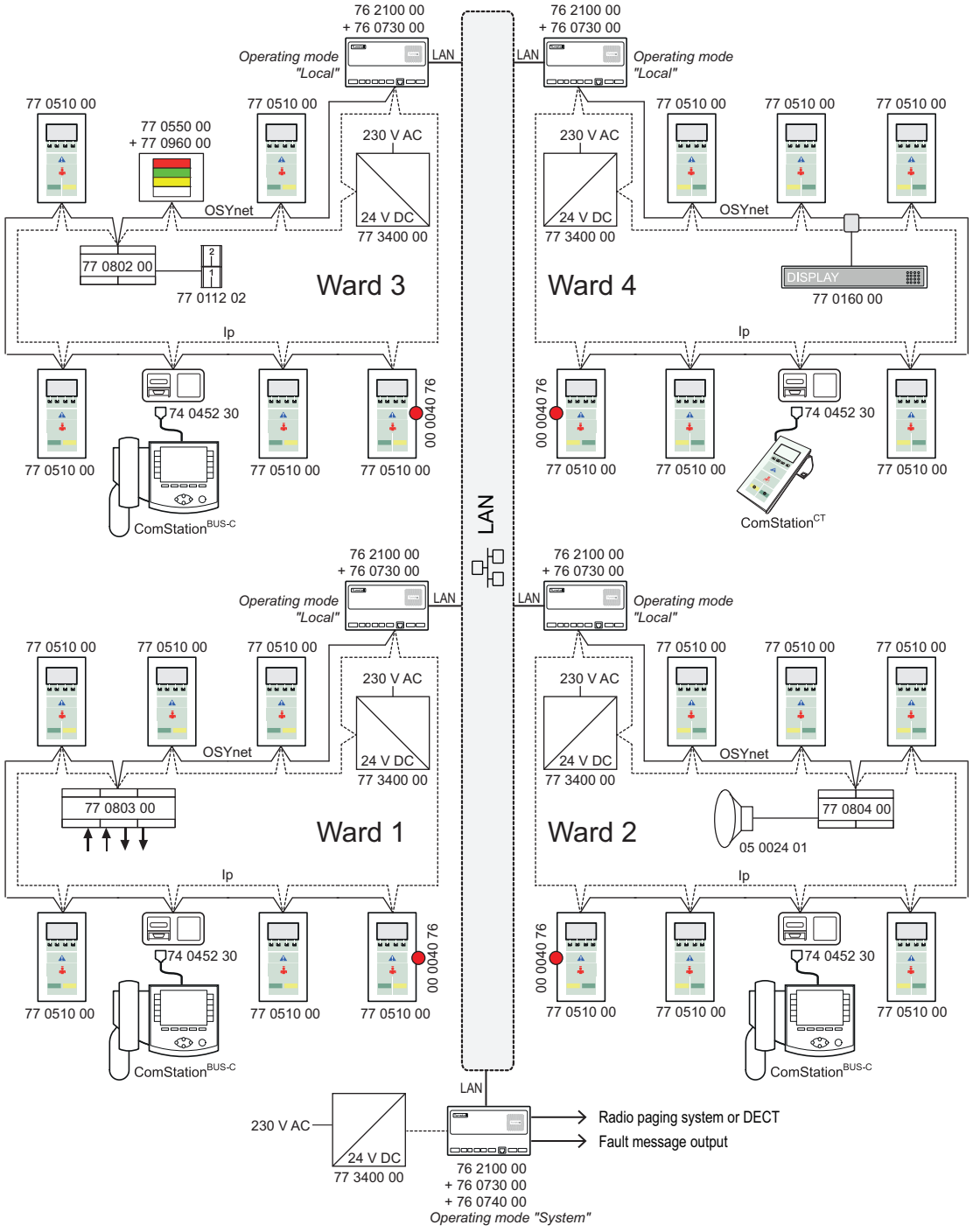
- Can ward coupling be activated at the ward console?
- Correct function of group lamps.

11. Installation examples

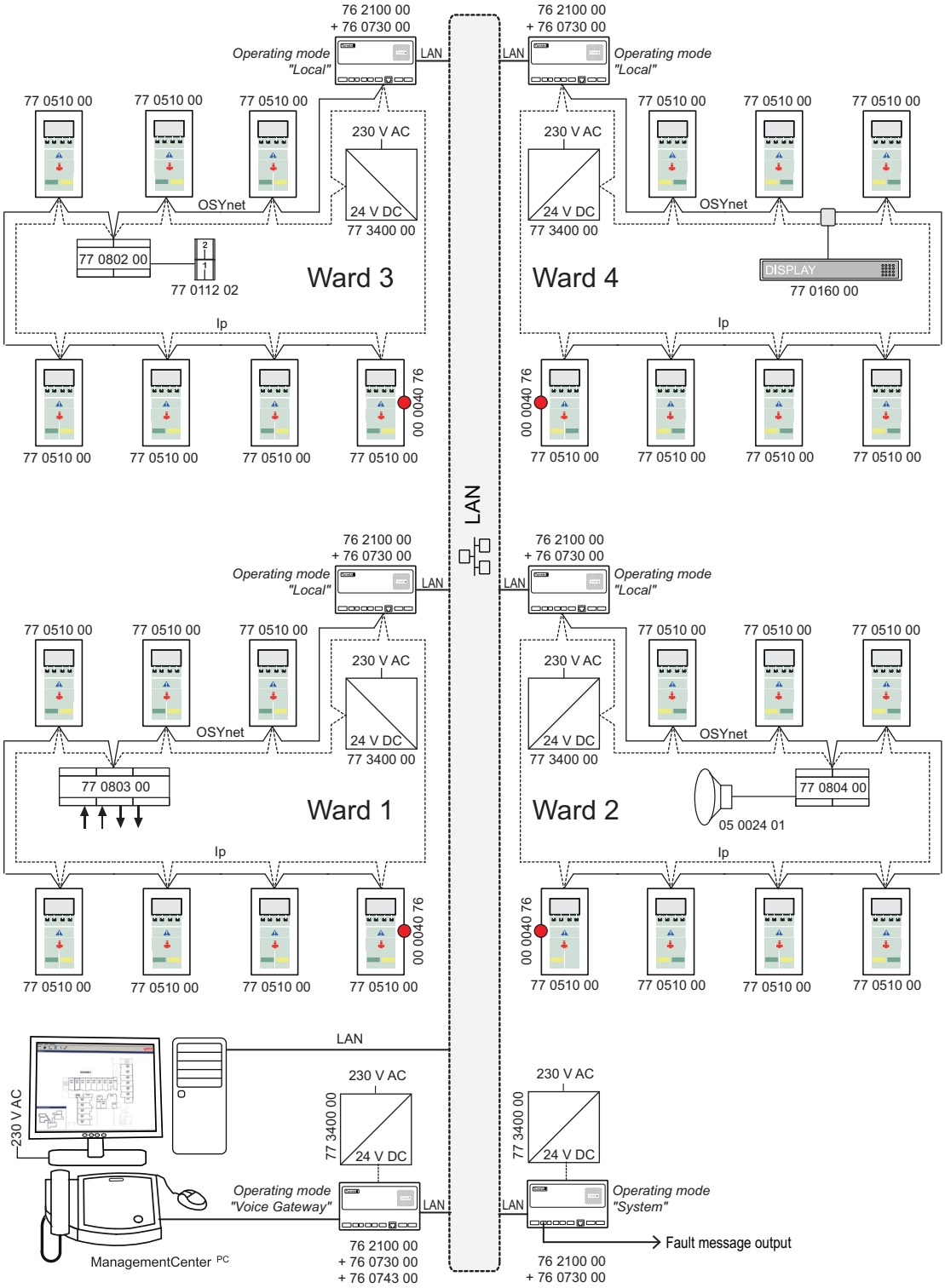
11.1 Product legend for the examples

00 0040 76	12 ohms resistor (bus termination)
05 0024 01	Loudspeaker with announcement interface
74 0452 30	Connection socket ComStation
76 2100 00	IP-SystemManager
76 0730 00	System module HEALTH
76 0740 00	Function module UM/A
76 0743 00	Function module VOIP GATE
77 0111 02	Direction lamp
77 0112 02	Group lamp, 2 groups
77 0160 00	Corridor display Alpha 16, double sided
77 0510 00	ComTerminal Flamenco
77 0520 00	RoomTerminal Flamenco
77 0550 00	ControlTerminal Flamenco
77 0605 00	ComStation^{BUS-C} Flamenco
77 0606 00	ComStation^{CT} Flamenco
77 0606 20	ComStation^{T} Flamenco
77 0802 00	OSYlink-Group lamp
77 0803 00	OSYlink-Universal
77 0804 00	OSYlink-Announcement
77 0960 00	ControlTerminal Installation kit
77 3400 00	Power supply unit UPS

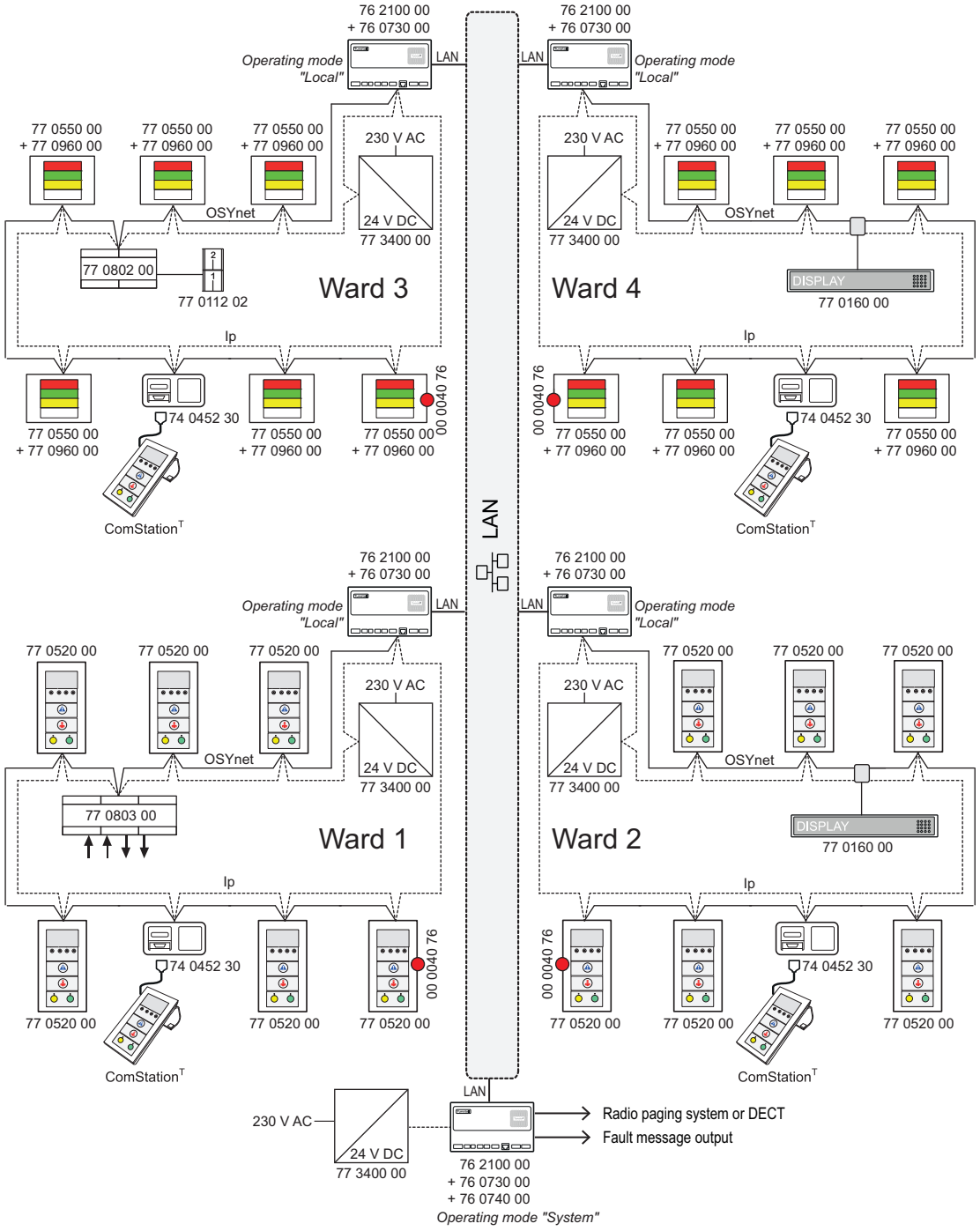
11.2 System with speech (ward console)



11.3 System with speech (central console)



11.4 System without speech



12. Light control

The Flamenco^{IP} nurse call system offers the patient the possibility to switch lights using the patient units. For this purpose the connection sockets are equipped with appropriate outputs.

	Order no.	**Pear push switch incl. call and light switch (Best.-Nr. 70 0710 0x)**	**Patient handset (order no. 74 0747 00)**
Connection socket combi	70 0424 00, 70 0425 00	■ Switching on/off one light source (room light or reading light) without dimming ■ Dimming one light source (room light or reading light)	■ Switching on/off two light sources (room light and reading light) without dimming ■ Dimming two light sources (room light and reading light)
Connection socket combi, bedhead unit	70 0434 00, 70 0435 00		
Connection socket combi, TVL	70 0424 50, 70 0425 50		
Connection socket combi, bedhead unit, TVL	70 0434 50, 70 0435 50		
Connection socket with call switch	70 0171 60...	■ Switching on/off one light source (room light or reading light) without dimming ■ Dimming one light source (room light or reading light)	-
Connection socket with call switch, bedhead unit	70 0171 50		

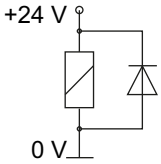
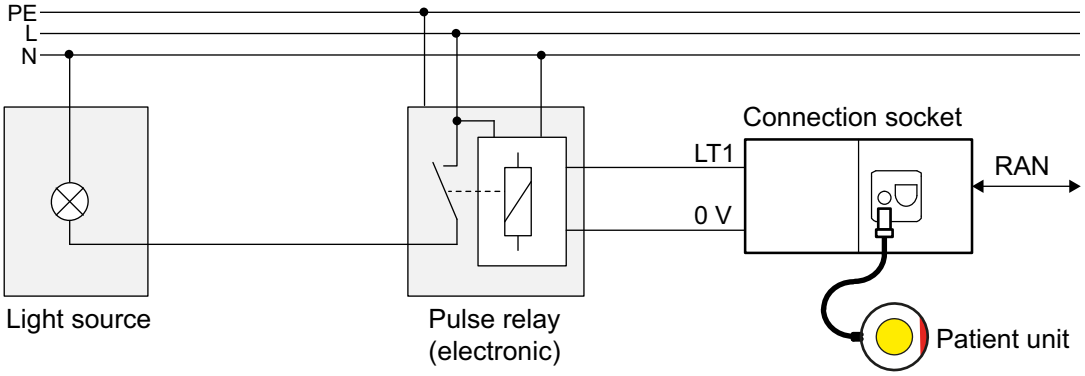
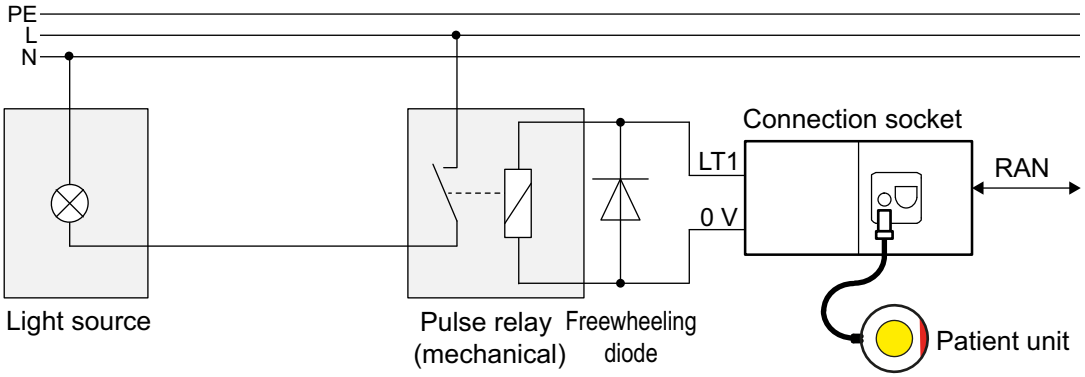
Tab. 5: Connection sockets and patient units for light control

The switching outputs provide an output voltage of 24 V DC and an output current of max. 200 mA, sourced from the nurse call system power supply. The potential refers to the 0 V connections of the nurse call system. The outputs prepare a switching pulse (24 V DC, max. 200 mA) for as long as the button on the patient unit is held down (pear push switch or patient handset).

The light relays to be used must meet the requirements specified in the following sections.

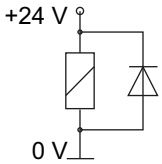
- refer to chapter 12.1 “Application: Switching the light on/off (without dimming)” on page 66.
- refer to chapter 12.2 “Application: Dimming the light” on page 67.

12.1 Application: Switching the light on/off (without dimming)

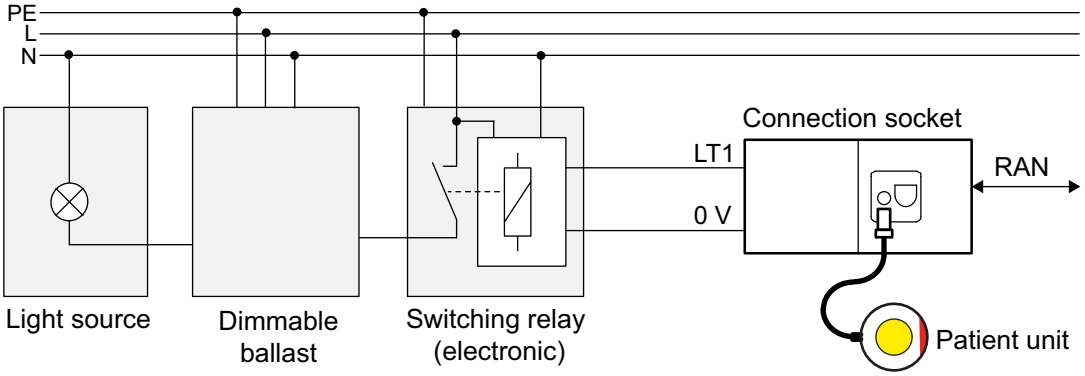
	Requirements
Relay type	■ Pulse relay (electronic) ■ Pulse relay (mechanical)
Nominal control voltage	24 V DC
Control voltage range	18 - 26 V DC
Max. current consumption	200 mA
Freewheeling diode	 When using a mechanical relay a freewheeling diode must be connected (e.g. 1N4002) directly at the relay connectors.
Potential separation	When installing the galvanic separation of the electric circuits must be ensured. It is necessary to comply with the German standard DIN VDE 0834.
Connection example with electronic pulse relay) 	
Connection example with mechanical pulse relay) 	

Tab. 6: Light relays for the application: Switching the light on/off (without dimming)

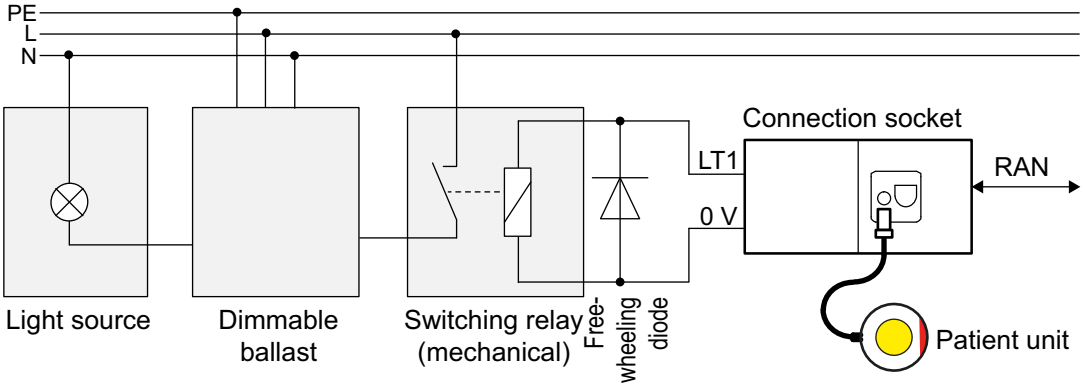
12.2 Application: Dimming the light

	Requirements
Relay type	■ Switching relay (electronic) ■ Switching relay (mechanical)
Nominal control voltage	24 V DC
Control voltage range	18 - 26 V DC
Max. current consumption	200 mA
Freewheeling diode	 When using a mechanical relay a freewheeling diode must be connected (e.g. 1N4002) directly at the relay connector.
Potential separation	When installing the galvanic separation of the electric circuits must be ensured. It is necessary to comply with the German standard DIN VDE 0834.
Ballast	An appropriate dimmable ballast is required to use the dimming, e.g. OSRAM DALI.

Connection example with electronic switching relay)



Connection example with mechanical switching relay)



Tab. 7: Light relays for the application: Dimming the light

13. Voltage surge protection

The German standard DIN VDE 0834-1 regulates that all cables of the nurse call system which are to emerge from the building shall be provided with voltage surge protection according to EN 50468 at the emerging point.

For the voltage surge protection you have especially to follow:

EN 61663-2: Lightning protection -Telecommunication lines - Part 2 Lines using metallic conductors (IEC 61663-2:2001).

In the following the structure of the voltage surge protection is presented for cables of the Flamenco^{IP} nurse call system, which are laid between two buildings.

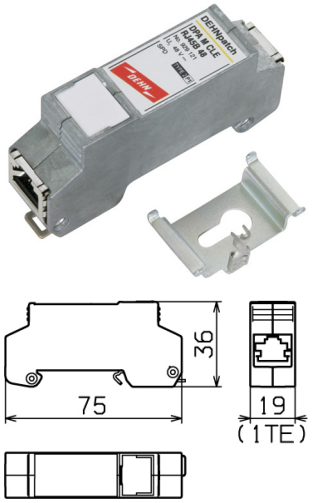
Note! For the described fine protection of the Flamenco^{IP} nurse call system it is provided that a basic surge protection to absorb the higher energies has been completed according to the valid regulations. The installation of a fine protection would be useless without this upstream protection.

The voltage surge protection has to be installed in the main building connection point. This should be installed directly where the cables enter the building.

Note! To make sure a permanent protection of the Flamenco^{IP} nurse call system, the voltage surge protection devices have to be installed acc. to the manufacturer 's specifications.

13.1 SPD module

The following surge protection device (SPD) module is suitable for the use with Flamenco^{IP}. But it is just an examples. SPD modules of other makes can be used as well.

Functions	Order no.	
SPD module for network cables DPA M CLE RJ45B 48 Surge arrester class E, fully shielded, tested acc. to EN 61643-21 for universal use acc. to EN 50173 up to 48 V DC for the protection of 4 pairs of data network interfaces via RJ45 socket, for single application or application in 19 inch cabinets, space-saving, width 19 mm. ■ Max. continuous operating DC voltage: 48 V ■ Nominal current: 1 A ■ C2 Total nominal discharge current (8/20) line-PG: 10 kA ■ Mounting on 35 mm top hat rail acc. to EN 60715 *Unit used in the figure on the right: mm*	77 4900 02	

13.2 Voltage surge protection between two buildings

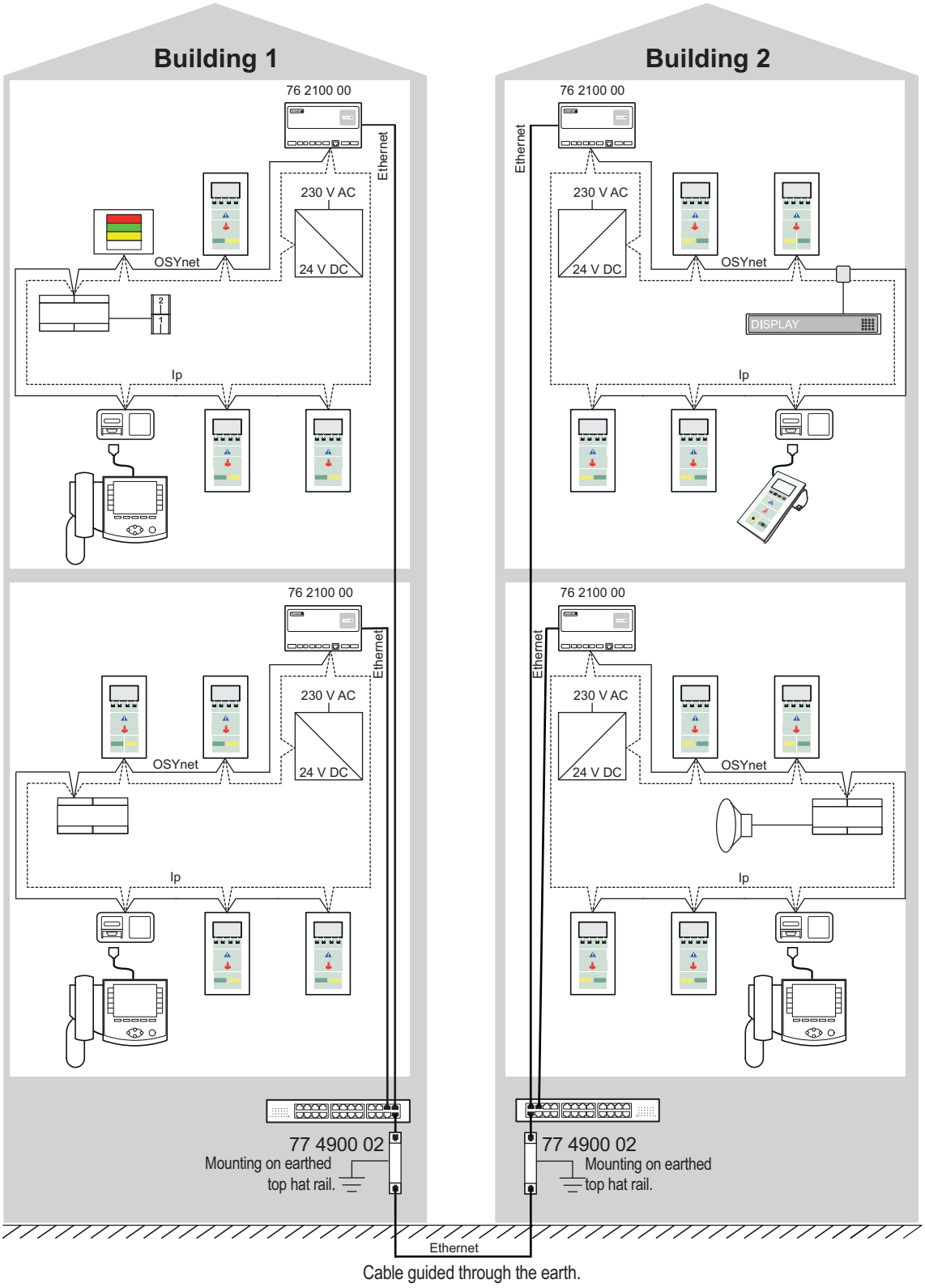


Fig. 12: Voltage surge protection between two buildings

14. Servicing

14.1 Maintenance

Nurse call system specialists must perform annual maintenance of the nurse call system. This comprises:

- Care and cleaning of system parts, cleaning of ventilation openings.
- The batteries of the power supply unit UPS (77 3400 00) and the battery set for UPS 60 (77 3450 00) should be replaced every 2 years.
- The batteries in uninterruptible power supply provided with system computers must be replaced according to the documentation provided by the manufacturer.
- Installation of necessary system updates.
- Readjustment and calibration of parts and devices.

WARNING! In all cases in which the nurse call system is switched off entirely or partially, the system owner must guarantee another form of monitoring of the affected rooms in the meantime.

After maintenance, the nurse call system must be inspected and any remaining faults must be eliminated.

The work to be performed must be documented in an operating logbook available on the system.

14.2 Inspection

Nurse call system specialists must regularly inspect the nurse call system every 3 months, i.e., check for proper function and repair when necessary.

Inspection every 3 months:

- Call switches and mobile devices for triggering calls provided for use by patients
- Signal lamps and acoustic signal generators
- The power supply

Inspection every 12 months:

- All other devices for call triggering, call cancelling and presence registration
- All other display equipment
- All devices for call answering
- All connected devices for recording, forwarding and displaying calls, e.g., connection sockets for the connection of call-triggering devices.

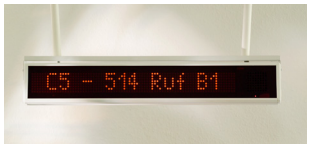
The work to be performed must be documented in an operating logbook available on the system.

14.3 Inspection measures

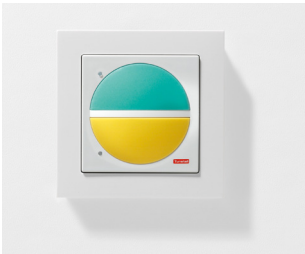
14.3.1 Signal lamps and corridor displays

Inspection measures	Order no.	
Room lamp, 3 sections Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the red light section flash or light up when a call has been triggered? ■ Does the green light section light up when presence 1 has been activated in the room? ■ Does the yellow light section light up when presence 2 has been activated in the room?	77 0170 00 77 0171 00 77 0175 00	 77 0170 00
Room lamp cardiac alarm, WC Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Do both blue light sections flash or light up when a cardiac alarm has been triggered in the respective room? ■ Does the white light section flash or light up when a WC call has been triggered in the respective room?	77 0170 01 77 0175 01	 77 0170 01
Room lamp, 4 sections Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the red light section flash or light up when a call has been triggered? ■ Does the green light section light up when presence 1 has been activated in the room? ■ Does the yellow light section light up when presence 2 has been activated in the room? ■ Do the white and red light section flash or light up when a WC call has been triggered in the respective room?	77 0170 10 77 0171 10 77 0175 10	 77 0170 10

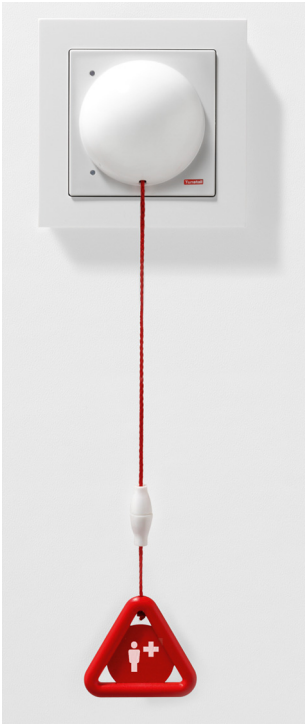
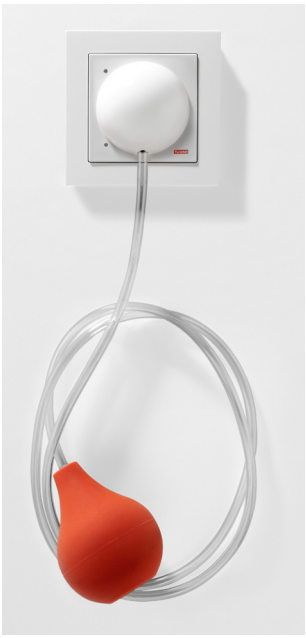
Inspection measures	Order no.	
Room lamp universal, 2 sections Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the green light section light up when the ComStation is in use? ■ Does the white light section flash or light up when a telephone call has been triggered in the respective room?	77 0182 10 77 0185 20	 77 0182 10
Direction lamp Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the red light section flash or light up when a call has been triggered in one of the allocated rooms? ■ Does the green light section light up if presence is activated in one of the allocated rooms?	77 0111 02	
Group lamp Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the red light section flash or light up when a call has been triggered in one of the allocated rooms in case of ward coupling? ■ Does the green light section light up if at least one presence has been activated at the coupled ward in case of ward coupling?	77 0112 02 77 0113 02 77 0114 02	

Inspection measures	Order no.	
Corridor display Alpha 16 Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the corridor display show the correct time if no message is present? ■ Does the corridor display show a call triggered at the ward after an overflow time? Overflow time according to operating mode and configuration in the SystemOrganizer. ■ Is the display fault-free and easily legible? ■ Does the corridor display emit a call tone in parallel with the text display of a triggered call? Volume of the call tone according to the configuration in the SystemOrganizer.	77 0150 00 77 0160 00	

14.4 Switches

Inspection measures	Order no.	
Call switch Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? Check both buttons. ■ Do the location and reassurance lights of the call switch work? ■ Does the switch emit an acoustic acknowledgement of the call initiation?	77 0211 00 A 77 0211 00 C 77 0211 00 F	
WC call switch Like 77 0211 00 A, but a WC call is triggered.	77 0211 01 A 77 0211 01 C 77 0211 01 F	77 0211 00 A
Staff presence switch Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Can presence 1 be activated and deactivated using the green presence switch? Does the reminder light work? ■ Can presence 2 be activated and deactivated using the green presence switch? Does the reminder light work? ■ If the optional "Call tone" function is activated via configuration on this switch, check additionally: Does the switch emit a call tone after an overflow time during activated staff presence if a call has been initiated in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer.	77 0212 00 A 77 0212 00 C 77 0212 00 F	 77 0212 00 A

Inspection measures	Order no.	
Cancel switch/WC Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Can a WC call be cancelled using the grey cancel button? Check both buttons. ■ Do the LEDs next to the buttons light up when a WC call that can be cancelled with this cancel switch is activated? ■ If the optional "Call tone" function is activated via configuration on this switch, check additionally: Does the switch emit a call tone after an overflow time during activated staff presence if a call has been initiated in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer.	77 0213 00 A 77 0213 00 C 77 0213 00 F	 77 0213 00 A
Cardiac alarm switch Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Can an alarm be triggered by pressing the blue alarm button if presence is activated in the room? Check both buttons. ■ Do the location and reassurance lights of the cardiac alarm switch work? ■ Does the switch emit an acoustic acknowledgement of the call initiation?	77 0214 00 A 77 0214 00 C 77 0214 00 F	 77 0214 00 A

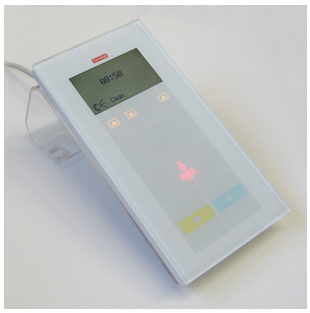
Inspection measures	Order no.	
Call pull-button Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Is the safety lock on the pull cord secured? ■ Is the pull cord firmly knotted on the call cord? ■ Can a call be triggered by pulling on the pull cord? ■ Do the location and reassurance lights of the call pull-button work? ■ Does the switch emit an acoustic acknowledgement of the call initiation?	77 0215 00 A 77 0215 00 C 77 0215 00 F	 77 0215 00 A
WC call pull-button Like 77 0215 00 A, but a WC call is triggered.	77 0215 01 A 77 0215 01 C 77 0215 01 F	
Pneumatic call switch Inspection interval: 3 months ■ Are the housing and air hose undamaged and free of contamination? ■ Is it guaranteed that the air hose is not kinked? ■ Is the air hose firmly connected to the switch casing and rubber ball? ■ Can a call be triggered by pressing the rubber ball? ■ Do the location and reassurance lights of the pneumatic call switch work? ■ Does the switch emit an acoustic acknowledgement of the call initiation?	77 0216 00 A 77 0216 00 C 77 0216 00 F	 77 0216 00 A
Pneumatic WC call switch Like 77 0216 00 A, but a WC call is triggered.	77 0216 01 A 77 0216 01 C 77 0216 01 F	

Inspection measures	Order no.	
Call switch/WC with cancel switch Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call switch work? ■ Does the switch emit an acoustic acknowledgement of the call initiation? ■ Can a WC call be cancelled using the grey cancel button? ■ Does the LED next to the cancel button light up when a WC call that can be cancelled with this cancel button is activated? ■ If the optional "Call tone" function is activated via configuration on this switch, check additionally: Does the switch emit a call tone after an overflow time during activated staff presence if a call has been initiated in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer.	77 0217 00 A 77 0217 00 C 77 0217 00 F	 77 0217 00 A
Call switch with privacy switch Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call button work? ■ Does the switch emit an acoustic acknowledgement of the call initiation?	77 0218 00 A 77 0218 00 C 77 0218 00 F	 77 0218 00 A

Inspection measures	Order no.	
Staff presence combination with call tone Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can a call be triggered by pressing the red call switch? ■ Do the location and reassurance lights of the red call button work? ■ Does the switch emit an acoustic acknowledgement of the call initiation? ■ Can presence 1 be activated and deactivated using the green presence button? Does the reminder light work? ■ If presence is activated: Does the switch emit a call tone after an overflow time if a call has been trigged in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer.	77 0219 00 A 77 0219 00 C 77 0219 00 F	 77 0219 00 A

14.5 Room terminals

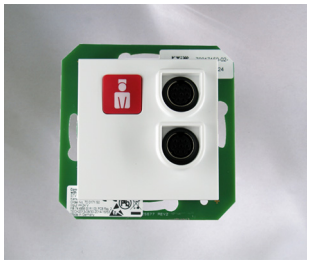
Functions	Order no.	
ComTerminal Flamenco Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can presence 1 be activated and deactivated using the green presence key? Does the reminder light work? ■ Can presence 2 be activated and deactivated using the yellow presence key? Does the reminder light work? ■ If presence is activated: Can a cardiac alarm be triggered by pressing the blue alarm key? Prerequisite: According to the configuration, the alarm key is available on the ComTerminal. ■ Do the location (in case of presence) and reassurance lights of the blue alarm key work? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call button work? ■ If presence is activated: Does the ComTerminal emit a call tone after an overflow time if a call has been trigged in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer. ■ Are the call type and call location shown on the display? ■ Can you answer the call by pressing the corresponding key on the ComTerminal? ■ For calls with speech possibility: Is a speech connection to the call location established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? ■ For the “Call” call type: Can you cancel the call remotely? Continued on the next page.	77 0510 00	

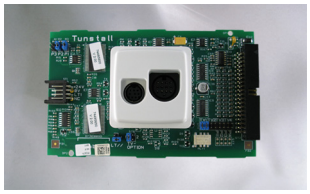
Functions	Order no.	
ComTerminal Flamenco **- Continued -** Inspection interval: 12 months ■ For the “Door Call” call type: Can you trigger the door opening mechanism to let the person at the door in? ■ For other call types: Can you close the speech connection to the call location?	77 0510 00	
ComTerminal Flamenco, desktop installation Like 77 5100 00, but also: ■ Is the plug of the connection cable firmly seated in the socket and secured with both screws?	77 0511 00	

Functions	Order no.	
RoomTerminal Flamenco Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can presence 1 be activated and deactivated using the green presence key? Does the reminder light work? ■ Can presence 2 be activated and deactivated using the yellow presence key? Does the reminder light work? ■ If presence is activated: Can a cardia alarm be triggered by pressing the blue alarm key? ■ Do the location (in case of presence) and reassurance lights of the blue alarm key work? ■ Can a call be triggered by pressing the red call key? ■ Do the location and reassurance lights of the red call key work? ■ If presence is activated: Does the RoomTerminal emit a call tone after an overflow time if a call has been trigged in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer. ■ Are the call type and call location shown on the display? ■ Can you acknowledge the call by pressing the corresponding key on the RoomTerminal?	77 0520 00	
RoomTerminal Flamenco, tabletop setup Like 77 5210 00, but also: ■ Is the plug of the connection cable firmly seated in the socket and secured with both screws?	77 0521 00	

Functions	Order no.	
ControlTerminal Flamenco Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the red light section flash or light up when a call has been triggered? ■ Does the green light section light up when Presence 1 has been activated in the room? ■ Does the yellow light section light up when presence 2 has been activated in the room? ■ Do the white and red light section flash or light up when a WC call has been triggered in the respective room?	77 0550 00 77 0555 00 77 0551 00	 77 0550 00

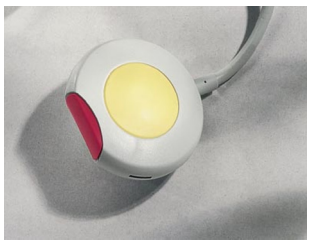
14.6 Connection sockets

Functions	Order no.	
Connection socket with call switch Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call button work? ■ Do the plug sockets sit precisely and firmly? ■ Is the plug connection stable when a pluggable call device (e.g., pear push switch) is connected to the plug socket? Check both plug sockets. ■ Does the pluggable call device (e.g., pear push switch) work when it is connected to the connection socket? Test as described for the pluggable call device. ■ If present: Does the external call device connected to the rear input of the connection socket work? Test according to the documentation for the external call device.	70 0171 60 A 70 0171 60 C 70 0171 60 F	 70 0171 60 A
Connection socket with call switch, bedhead unit Like 70 0171 03 A.	70 0171 50	

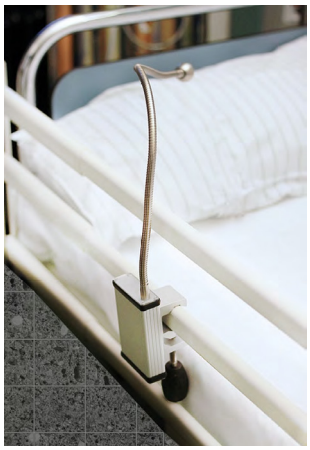
Functions	Order no.	
Connection socket combi Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Do the plug sockets sit precisely and firmly? ■ Is the plug connection stable when a patient handset is connected to the large plug socket? ■ Does the patient handset work when it is connected to the connection socket? Test as described for the patient handset. ■ Is the plug connection stable when a pluggable call device (e.g., pear push switch) is connected to the small plug socket? ■ Does the pluggable call device (e.g., pear push switch) work when it is connected to the connection socket? Test as described for the pluggable call device.	70 0424 00 70 0425 00 70 0424 50	
Connection socket combi, bedhead unit Like connection socket combi.	70 0434 00 70 0435 00 70 0434 50	
Connection socket ComStation Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Does the plug socket sit precisely and firmly? ■ Is the plug connection stable when the corresponding device (ComStation^{BUS-C}, ComStation^{CT} Flamenco, ComStation^{T} Flamenco, ComTerminal Flamenco in tabletop design or RoomTerminal Flamenco in tabletop design) is connected to the connection socket? ■ Are the screws of the connecting plug screwed into the socket?	74 0452 30	

Functions	Order no.	
Connection socket ComStation^{PC} Inspection interval: 12 months ■ Is the housing undamaged and free of contamination? ■ Do the plug sockets sit precisely and firmly? ■ Are the plug connections stable when the ComStation^{PC} is connected to the sockets? ■ Are the screws of the connecting plug screwed into the sockets?	74 0452 60A	

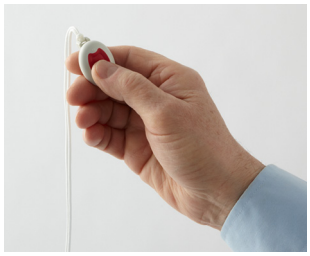
14.7 Patient devices

Functions	Order no.	
Patient handset Inspection interval: 3 months ■ Are the housing, buttons, connection cable and plug undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call button work? ■ Is a speech connection to the patient handset established when a call is answered? ■ Can both partners in the conversion hear at an appropriate volume and understand each other? ■ Does the sound become louder when you hang the patient handset into a patient handset bracket (70 0800 00)? ■ Is the plug connection stable when you connect headphones to the headset jack of the patient handset? ■ Is the sound forwarded to connected headphones?	74 0747 00	
Pear push switch incl call and light switch Inspection interval: 3 months ■ Are the housing, buttons, connection cable and plug undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? ■ Do the location and reassurance lights of the red call button work?	70 0710 00 70 0710 01	
Pear push switch incl. 2 call switches Inspection interval: 3 months ■ Are the housing, buttons, connection cable and plug undamaged and free of contamination? ■ Can a call be triggered by pressing the red call button? Check both buttons. ■ Do the location and reassurance lights work?	70 0711 00 70 0711 01	

Functions	Order no.	
Self-releasing adapter patient unit Inspection interval: 3 months ■ Are the plug and cable undamaged and free of contamination? ■ Does the patient handset work when the self-relasing adapter is connected?	74 0812 50	
Self-releasing adapter pear push switch Like 74 0812 50, but for pear push switch.	74 0812 51A	
Large-surface pneumatic switch *plug-in connection to connection socket* Inspection interval: 3 months ■ Are the housing, button, connection cable and plug undamaged and free of contamination? ■ Can a call be triggered by pressing the red trigger button? ■ Do the location and reassurance lights work?	70 0106 99	
Sound detector *plug-in connection to connection socket* Inspection interval: 3 months ■ Are the housing, keys, controllers, connection cable and plug undamaged and free of contamination? ■ Function test according to the provided documentation of the manufacturer.	70 0790 01	
Connection cable for call devices *plug-in connection to connection socket* Inspection interval: 3 months ■ Are the cable and plug undamaged and free of contamination? ■ Does the connected call device trigger a call within the nurse call system? ■ Function test of the connected call device according to the documentation of the call device manufacturer.	70 0812 00	

Functions	Order no.	
Sensor mat *plug-in connection to connection socket* Inspection interval: 3 months ■ Are the mat, connection cable and plug undamaged and free of contamination? ■ Is a call triggered when you step on or press the mat? ■ Has it been guaranteed that no objects are located on the mat? ■ Is the mat placed in a non-slipping manner?	Z 00 8002 02	
Breathing sensor set *plug-in connection to connection socket* Function test according to the provided documentation of the manufacturer. At minimum, a weekly inspection with test call triggering, an optical inspection of the connection to the nurse call system and a manual test of the holding force of the mounting are suggested. After a patient is moved or the system is moved to an environment with other interfering noises, the settings and placement must be performed again and checked.	Z 00 8201 40	

14.8 Radio call devices

Functions	Order no.	
Radio receiver-T *plug-in connection to connection socket* Recommendation of the manufacturer: Weekly inspection with test call reception under observance of the display elements and call forwarding. If radio reception interference is suspected, the radio range must be checked as during initial start-up. ■ Are the housing, connection cable and plug undamaged and free of contamination? ■ Does the LED indicator show a fault? If so, remedy the fault. Example: If the LED on the radio receiver flashes red, the battery of an assigned radio transmitter is low. Make sure the battery is changed. ■ Function test according to the provided documentation of the manufacturer	Z 00 8202 33	
MyAmie *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver-T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Are the housing and button undamaged and free of contamination? ■ Replace the neck cord or wrist strap according to the hygiene regulations of the hospital. ■ Can a call be triggered by pressing the call button? ■ Does the red LED light up after the call button is pressed? If it flashes, the battery is low. Replace MyAmie. ■ Check whether MyAmie works across the entire intended area of application (range test).	P68007/02	

Functions	Order no.	
iVi *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver-T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Are the housing and buttons undamaged and free of contamination? ■ Replace the neck cord according to the hygiene regulations of the hospital. ■ If the LED flashes orange, a fault is present. Remedy the fault. ■ Can a call be triggered by pressing the call button? ■ Function test of the fall trigger according to the user instructions of the iVi. ■ Does the LED light up red after the call switch is pressed? If it flashes red, the battery is low. Replace the battery. Service life of the battery: approx. 12 months ■ Check whether the iVi works across the entire intended area of application (range test).	P68007/47	 
Universal sensor *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Are the housing and connection cable undamaged and free of contamination? ■ Can a call be triggered by a triggering of the connected call device? ■ Function test according to the documentation for the connected call device. ■ If the radio receiver of the universal sensor indicates a low battery, the battery must be replaced. ■ Check whether the universal sensor works across the entire intended area of application (range test).	41005/30	

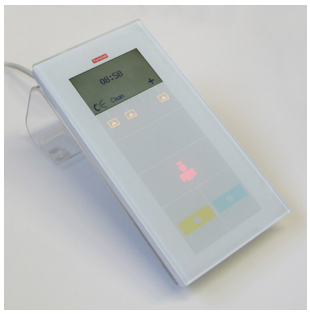
Functions	Order no.	
Radio smoke detector *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Function test according to the provided documentation of the manufacturer. ■ If the radio receiver of the smoke detector indicates a low battery, the radio smoke detector must be replaced. ■ Is a call triggered in the nurse call system when the smoke detector indicates the emission of smoke?	68005/96	
Large-surface radio pneumatic switch *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Are the housing and switch undamaged and free of contamination? ■ Can a call be triggered by pressing the red trigger button? ■ If the radio receiver for the pneumatic switch indicates a low battery, the battery must be replaced. ■ Check whether the pneumatic switch works across the entire intended area of application (range test).	75 0711 00	

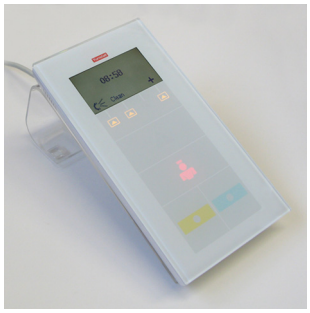
Functions	Order no.	
Wireless sensor mat 869 MHz *to be assigned to radio receiver-T* Recommendation of the manufacturer of the radio receiver T: Weekly inspection with test call reception under observance of the display elements and call forwarding. ■ Is the mat undamaged and free of contamination? ■ Is a call triggered when you step on or press the mat? ■ Has it been guaranteed that no objects are located on the mat? ■ Is the mat placed in a non-slipping manner? ■ If the radio receiver for the sensor mat indicates a low battery, the battery must be replaced. ■ Check whether the sensor mat works across the entire intended area of application (range test).	Z 00 8002 01	

14.9 Ward consoles

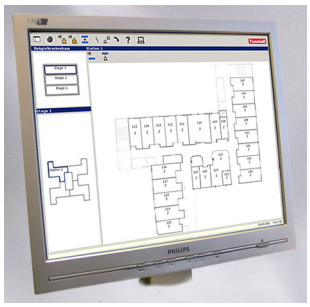
Functions	Order no.	
ComStation^{BUS-C} Inspection interval: 3 months ■ Are the housing and connection cable undamaged and free of contamination? ■ Are both plugs of the connection cable seated firmly and are the screws screwed in? ■ Is the display easily readable? ■ Is a fault in the nurse call system shown on the display? If so, locate the fault and remedy it. ■ Are calls of the ward indicated by a call tone and shown on the display? Inspection interval: 12 months ■ Can you answer the call by pressing the corresponding push button or automatic button? ■ For calls with speech possibility: Is a speech connection to the call location established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? Test using the microphone and loudspeaker and test using the handset. ■ For the “Call” call type: Can you cancel the call remotely? ■ For the “Door Call” call type: Can you trigger the door opening mechanism to let the person at the door in? ■ For other call types: Can you close the speech connection to the call location?	77 0605 50	

Functions	Order no.	
ComStation^{PC} Inspection interval: 3 months ■ Are the PC, screen, UPS, speech unit and mouse undamaged and free of contamination? ■ Are the connection cables undamaged and free of contamination? ■ Are all plugs of the connection cables seated firmly and are the screws screwed in? ■ Is the screen easily readable? ■ Is a fault in the nurse call system shown on the screen? If so, locate the fault and remedy it. ■ Are calls of the ward indicated by a call tone and shown on the screen? Inspection interval: 12 months ■ Can the call be answered? ■ For calls with speech possibility: Is a speech connection to the call location established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? Test using the microphone and loudspeaker and test using the handset. ■ For the “Call” call type: Can you cancel the call remotely? ■ For the “Door Call” call type: Can you trigger the door opening mechanism to let the person at the door in? ■ For other call types: Can you close the speech connection to the call location?	77 0602 00	

Functions	Order no.	
ComStation^{CT} Flamenco Inspection interval: 3 months ■ Are the housing and connection cable undamaged and free of contamination? ■ Is the plug of the connection cable firmly seated in the socket and secured with both screws? ■ Is the display easily readable? ■ Is a fault in the nurse call system shown on the display? If so, locate the fault and remedy it. ■ Can presence 1 be activated and deactivated using the green presence key? Does the reminder light work? ■ Can presence 2 be activated and deactivated using the yellow presence key? Does the reminder light work? ■ If presence is activated: Can a cardiac alarm be triggered by pressing the blue alarm key? Prerequisite: According to the configuration, the alarm key is available on the ComStation^{CT}. ■ Do the location (in case of presence) and reassurance lights of the blue alarm key work? ■ Can a call be triggered by pressing the red call switch? ■ Do the location and reassurance lights of the red call key work? ■ If presence is activated: Does the ComStation^{CT} emit a call tone after an overflow time if a call has been trigged in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer. ■ Are the call type and call location shown on the display? *Continued on the next page.*	77 0606 00	

Functions	Order no.	
ComStation^{CT} Flamenco - continuation Inspection interval: 12 months ■ Can you answer the call by pressing the corresponding key on the ComStation^{CT}? ■ For calls with speech possibility: Is a speech connection to the call location established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? ■ For the “Call” call type: Can you cancel the call remotely? ■ For the “Door Call” call type: Can you trigger the door opening mechanism to let the person at the door in? ■ For other call types: Can you close the speech connection to the call location?	77 0606 00	

Functions	Order no.	
ComStation^{T} Flamenco Inspection interval: 3 months ■ Are the housing and connection cable undamaged and free of contamination? ■ Is the plug of the connection cable firmly seated in the socket and secured with both screws? ■ Is the display easily readable? ■ Is a fault in the nurse call system shown on the display? If so, locate the fault and remedy it. ■ Can presence 1 be activated and deactivated using the green presence key? Does the reminder light work? ■ Can presence 2 be activated and deactivated using the yellow presence key? Does the reminder light work? ■ If presence is activated: Can a cardiac alarm be triggered by pressing the blue alarm key? ■ Do the location (in case of presence) and reassurance lights of the blue alarm key work? ■ Can a call be triggered by pressing the red call key? ■ Do the location and reassurance lights of the red call key work? ■ If presence is activated: Does the ComStation^{T} emit a call tone after an overflow time if a call has been trigged in another room of the ward? Overflow time according to operating mode and configuration in the SystemOrganizer. ■ Are the call type and call location shown on the display? ■ Can you acknowledge the call by pressing the corresponding key on the ComStation^{T}?	77 0606 20	

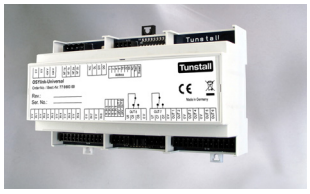
Functions	Order no.	
ManagementCenter^{PC} Inspection interval: 3 months ■ Are the PC, screen, UPS, speech unit and mouse undamaged and free of contamination? ■ Are the connection cables undamaged and free of contamination? ■ Are all plugs of the connection cables seated firmly and are the screws screwed in? ■ Is the screen easily readable? ■ Is a fault in the nurse call system shown on the screen? If so, locate the fault and remedy it. ■ Are calls of the connected wards indicated by a call tone and shown on the screen? Inspection interval: 12 months ■ Can the call be answered? ■ For calls with speech possibility: Is a speech connection to the call location established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? Test using the microphone and loudspeaker and test using the handset. ■ For the “Call” call type: Can you cancel the call remotely? ■ For the “Door Call” call type: Can you trigger the door opening mechanism to let the person at the door in? ■ For other call types: Can you close the speech connection to the call location?	77 0610 00	

14.10 System supplements

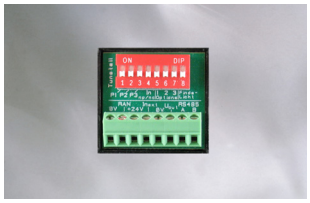
Functions	Order no.	
Door entry speaker Inspection interval: 3 months ■ Are the housing and buttons undamaged and free of contamination? ■ Are the buttons of the door entry speaker backlit? ■ Can a call be triggered by pressing the red call button? ■ Is a speech connection to the door entry speaker established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? ■ Does the door opening mechanism work if you have been let in by your conversation partner?	77 0350 00	

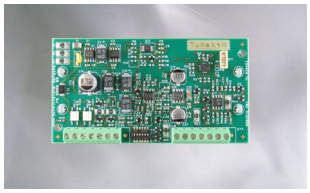
14.11 Interfaces

14.11.1 Interfaces in the group

Functions	Order no.	
OSYlink-Universal Inspection interval: 3 months ■ Is the connected external device undamaged and free of contamination? ■ If a call device is connected: Is a call triggered in the nurse call system if the call device is triggered? ■ If present: Do the location and reassurance lights of the call device work? ■ Can the call be cancelled?	77 0803 00	

14.11.2 Interfaces in the room

Functions	Order no.	
RAN interface Inspection interval: 3 months ■ Is the connected external device undamaged and free of contamination? ■ If the external device is a call device: Is a call triggered in the nurse call system if the call device is triggered? ■ If present: Do the location and reassurance lights of the call device work? ■ Can the call be cancelled? ■ If the external device is a presence detector: Can presence 1 be activated and deactivated using the presence detector? Does the reminder light work?	77 0840 00	

Functions	Order no.	
RAN interface with speech Inspection interval: 3 months ■ Is the connected call device undamaged and free of contamination? ■ Is a call triggered in the nurse call system if the call device is triggered? ■ Do the location and reassurance lights of the call device work? ■ Is a speech connection to the call device established when a call is answered? ■ Can both conversation partners hear at an appropriate volume and understand each other? ■ Can the call be cancelled?	77 0880 00	
Telephone interface relay Inspection interval: 3 months ■ Is a call triggered in the nurse call system when the connected telephone rings?	11 5350 00	
Smoke detector Inspection interval: 3 months ■ Is the housing undamaged and free of contamination? ■ Does the smoke detector trigger a call within the nurse call system? ■ Function test according to the provided documentation of the manufacturer.	77 0902 00	

14.12 System control

Functions	Order no.	
IP-SystemManager, “Local” operating mode Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Does the “Fault” LED indicate a fault for the connected ward? ■ Is the fault also indicated by the device connected to the “Fault Relay” connector? ■ If a fault is indicated, localize and remedy it.	76 2100 00	
IP-SystemManager, “System” operating mode Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Does the “Fault” LED indicate a fault for the connected nurse call system? ■ Is the fault also indicated by the device connected to the “Fault Relay” connector? ■ If a fault is indicated, localize and remedy it.		
IP-SystemManager, “System + Local” operating mode Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Does the “Fault” LED indicate a fault for the connected nurse call system? ■ Is the fault also indicated by the device connected to the “Fault Relay” connector? ■ If a fault is indicated, localize and remedy it.		

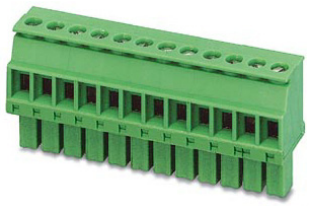
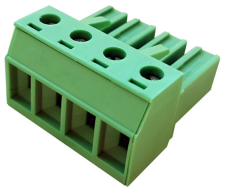
14.13 Power supply

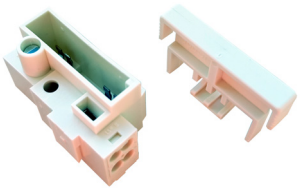
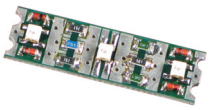
Functions	Order no.	
Power supply unit UPS Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Are the ventilation openings free of dust deposits? ■ Do the LED indicators on the front indicate fault-free operation? ■ Does the output voltage of the power supply unit amount to +24 V? ■ Does the voltage on the point of the ring with the lowest voltage level amount to a minimum of +20 V? ■ Perform a function test of the UPS function. ■ It is recommended that the batteries be replaced every 2 years.	77 3400 00	
Power supply unit UPS 60 Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Are the ventilation openings free of dust deposits? ■ Do the LED indicators on the front indicate fault-free operation? ■ Does the output voltage of the power supply unit amount to +24 V? ■ Does the voltage on the point of the ring with the lowest voltage level amount to a minimum of +20 V? ■ Perform a function test of the UPS function.	77 3400 10	
Battery set for UPS 60 Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Are the ventilation openings free of dust deposits? ■ It is recommended that the batteries be replaced every 2 years.	77 3450 00	

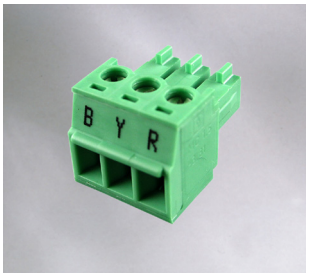
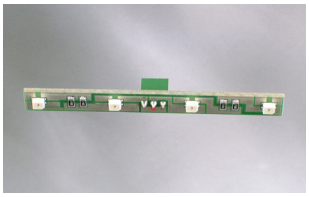
Functions	Order no.	
Power supply unit Inspection interval: 3 months ■ Are the housing and connections undamaged and free of contamination? ■ Are the ventilation openings free of dust deposits? ■ Do the LED indicators on the front panel indicate fault-free operation? ■ Does the output voltage of the power supply unit amount to +24 V? ■ Does the voltage on the point of the ring with the lowest voltage level amount to a minimum of +20 V?	77 3401 00	

15. Spare parts

Functions	Order no.	
Terminating resistor 120 Ohm as bus terminating element in the final bus device of the OSYnet group bus.	00 0040 76	
Fuse (5x20) F1A e.g. for corridor display Alpha 16, corridor display Alpha 16, double sided.	00 0130 24	
Mains fuse (5 x 20) T 5.0 A e.g. for power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0130 41	
Output fuse FKS 15 A e.g. for power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0132 02	
Battery fuse internal FKS 20 A e.g. for power supply unit UPS, battery set for UPS 60.	00 0132 03	
Push-wire connector for junction boxes, 5-pole e.g. for connection socket ComStation, ControlTerminal Flamenco, ControlTerminal with doorplate Flamenco. *Wire cross-section: 0.5 - 2.5 mm²*	00 0210 21	
Clamp for battery connection, 2-pole e.g. for power supply unit UPS 60.	00 0211 20	
Plug-in screw-type connector, 6-pole e.g. for OSYlink-Announcement.	00 0211 32	
Plug-in screw-type connector, 4-pole e.g. for IP-SystemManager (Power connection), OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	00 0211 33	

Functions	Order no.	
Plug-in screw-type connector, 4-pole e.g. for IP-SystemManager (NF 1 connection), OSYlink-Door entry speaker, OSYlink-Group lamp, OSYlink-Announcement, OSYlink-Universal.	00 0211 36	
Plug-in screw-type connector, 5-pole e.g. for IP-SystemManager (RS232 A or RS232 B connection), connection socket with call switch, connection socket with call switch bedhead unit.	00 0211 37	
Plug-in screw-type connector, 12-pole e.g. for OSYlink-Universal.	00 0211 38	
Plug-in screw-type connector, 7-pole, for signalling outputs e.g. for power supply, power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0211 39	
Plug-in screw-type connector, 3-pole, for mains connection e.g. for power supply, power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0211 40	
Plug-in screw-type connector, 4-pole, for 24 V connection e.g. for power supply, power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0211 41	
Plug-in screw-type connector, 3-pole e.g. for IP-SystemManager (OSYnet 1 connection or Fault Relay connection).	00 0211 45	

Functions	Order no.	
Plug-in screw-type connector, 2-pole e.g. for IP-SystemManager (UPS connection).	00 0211 47	
Insertion bridge EBP 2 - 5 e.g. for IP-SystemManager (Power connection), ControlTerminal Flamenco, ControlTerminal with door plate Flamenco.	00 0220 52	
Insertion bridge EB 2 - 5 for control terminals “x“ and “y“ e.g. for power supply unit, power supply unit UPS, power supply unit UPS 60.	00 0223 56	
Plug-in screw terminal with fuse holder e.g. for corridor display Alpha 16, corridor display Alpha 16, double sided.	00 0224 81	
Rechargeable lead AGM batteries, type BAT 24-7 consisting of 2 batteries for power supply unit UPS, order no. 77 3400 00	00 0648 85	
Rechargeable lead AGM battery, type BAT 12-24 Battery for battery set for UPS 60, order no. 77 3450 00.	00 0648 87	
LED module, red for group lamps, direction lamp.	13 5200 00A	
LED module, green for group lamps, direction lamp.	13 5202 00A	
Connecting cable e.g. for connection socket with call switch or for connection socket with call switch bedhead unit for the connection of an external call device to the additional external call input.	50 0308 02	

Functions	Order no.	
Connector, 3-pole for switches and room lamps.	70 0807 00	
Over-voltage protection circuit	70 0890 97	
LED module, red for room lamps.	77 0190 00	
LED module, yellow for room lamps.	77 0190 01	
LED module, green for room lamps.	77 0190 02	
LED module, white for room lamps.	77 0190 03	
LED module, blue for room lamps.	77 0190 04	
OSYnet connecting plug für OSYnet-Y-RepeaterOpto.	77 0950 00	

16. Product leaflets

Each device is furnished with a product leaflet with information on mounting and connection details. In addition, we have collated the relevant product leaflets in this chapter of the technical manual:

WARNING! Do not install the power supply unit at this time. The mounting and installation of the various devices and equipment shall be executed with no electric power in the system. Otherwise there is the ever present danger of a short-circuit situation!

NOTE! Check that the order no. on the products is the same as the order no. on the installation plans. Example: Switches for WC call have the same housing as the switches for normal call, however, they are programmed differently.

NOTE! The table of contents for the “Product leaflets” chapter is located at the end of this technical manual.

Installationsanleitung D

Gruppenleuchte, 2-teilig, Best.-Nr. 77 0112 02
Gruppenleuchte, 3-teilig, Best.-Nr. 77 0113 02
Gruppenleuchte, 4-teilig, Best.-Nr. 77 0114 02
Signalleuchte für mehrere Gruppen zur gruppenbezogenen Signalisierung von Rufen. (2-teilig: 2 Gruppen, 3-teilig: 3 Gruppen, 4-teilig: 4 Gruppen) Je Gruppe stehen zwei Einzelleuchtfelder (rot und grün) mit Anschlussmöglichkeiten zur Signalisierung von Rufen und Rufstatus zur Verfügung. Inkl. LED-Module.

Abmessungen (HxBxT) ohne Montagerahmen:
2-teilig: 160 x 86 x 70 mm
3-teilig: 240 x 86 x 70 mm
4-teilig: 320 x 86 x 70 mm

Betriebsstrom pro Leuchtfeld: 75 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Installation Instructions GB

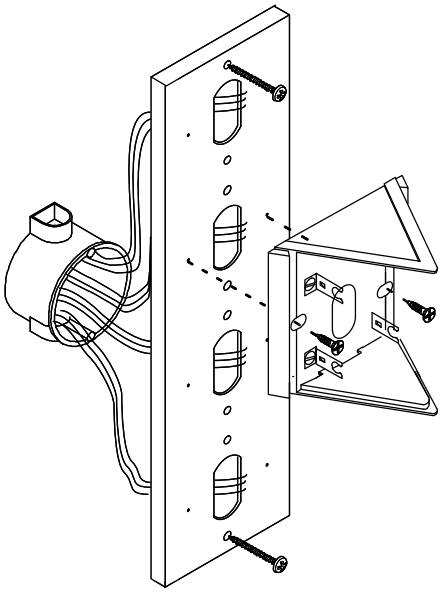
Group lamp, 2 groups, order no. 77 0112 02
Group lamp, 3 groups, order no. 77 0113 02
Group lamp, 4 groups, order no. 77 0114 02
Signal lamps for several groups for group related display of calls: 2 groups, 3 groups or 4 groups. Two single sections (red and green) per group with connection possibilities for signalling of calls and call status incl. LED modules.

Dimensions (HxWxD) without mountnig frame:
2 groups: 160 x 86 x 70 mm
3 groups: 240 x 86 x 70 mm
4 groups: 320 x 86 x 70 mm

Operating current per light section: 75 mA

Note! The complete installation of the system is described in the technical manual.

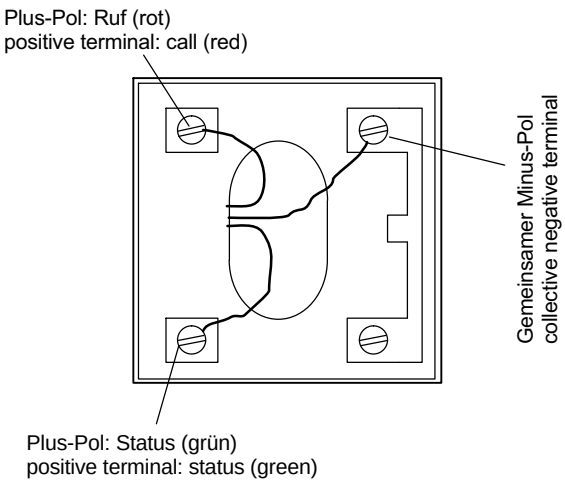
A



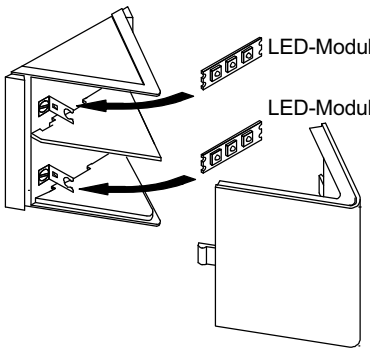
Einbaudose und Befestigungsschrauben für die Wandmontage nicht im Lieferumfang.
Back box and fixing screws for wall mounting not included in delivery.

B

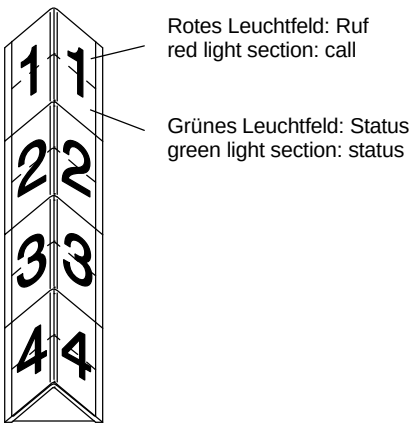
Anschlüsse / Connections:



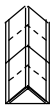
C



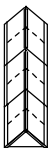
D



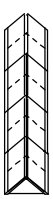
77 0112 02
Gruppenleuchte, 2-teilig
Group lamp, 2 groups



77 0113 02
Gruppenleuchte, 3-teilig
Group lamp, 3 groups



77 0114 02
Gruppenleuchte, 4-teilig
Group lamp, 4 groups



CE

00 8802 47, 09/11 (Rev. 2.0)

Tunstall

Installationsanleitung D

Flurdisplay Alpha 16, Best.-Nr. 77 0150 00

Display zur alphanumerischen Anzeige von Rufen und allgemeinen Systeminformationen.

- 16 Zeichen, alphanumerisch
- Automatische Anzeige als Laufschrift bei längeren Texten
- Tongeber zur Anzeige von nachgesendeten Rufen
- Lautsprecher z.B. für Durchsagen und Signaltöne
- Stromaufnahme: 300 mA (Durchschnitt)

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Adresse einstellen (1 - 110)

Zum Einstellen der Adresse dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 wird durch Einschalten des Codierschalters 3 eingestellt.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Wenn die Adresse während des Betriebs geändert wird, muss anschließend ein **Reset** durchgeführt werden. Für den Reset Codierschalter 10 für eine Sekunde auf ON setzen.

B Montage

Das Flurdisplay ist vorgesehen zur Montage in Fluren oder Diensträumen.

Das mitgelieferte Zubehör dient zur Deckenmontage.

Installation Instructions GB

Corridor Display Alpha 16, order no. 77 0150 00

Display for alphanumeric indication of calls and general system information.

- 16 digits, alphanumeric
- Longer texts are automatically displayed as ticker
- Buzzer for signalling forwarded calls
- Loudspeaker, e.g. for announcements or signal tones
- Supply current: 300 mA (average)

Note! The complete installation of the system is described in the technical manual.

A Setting of address (1 - 110)

For setting the address please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

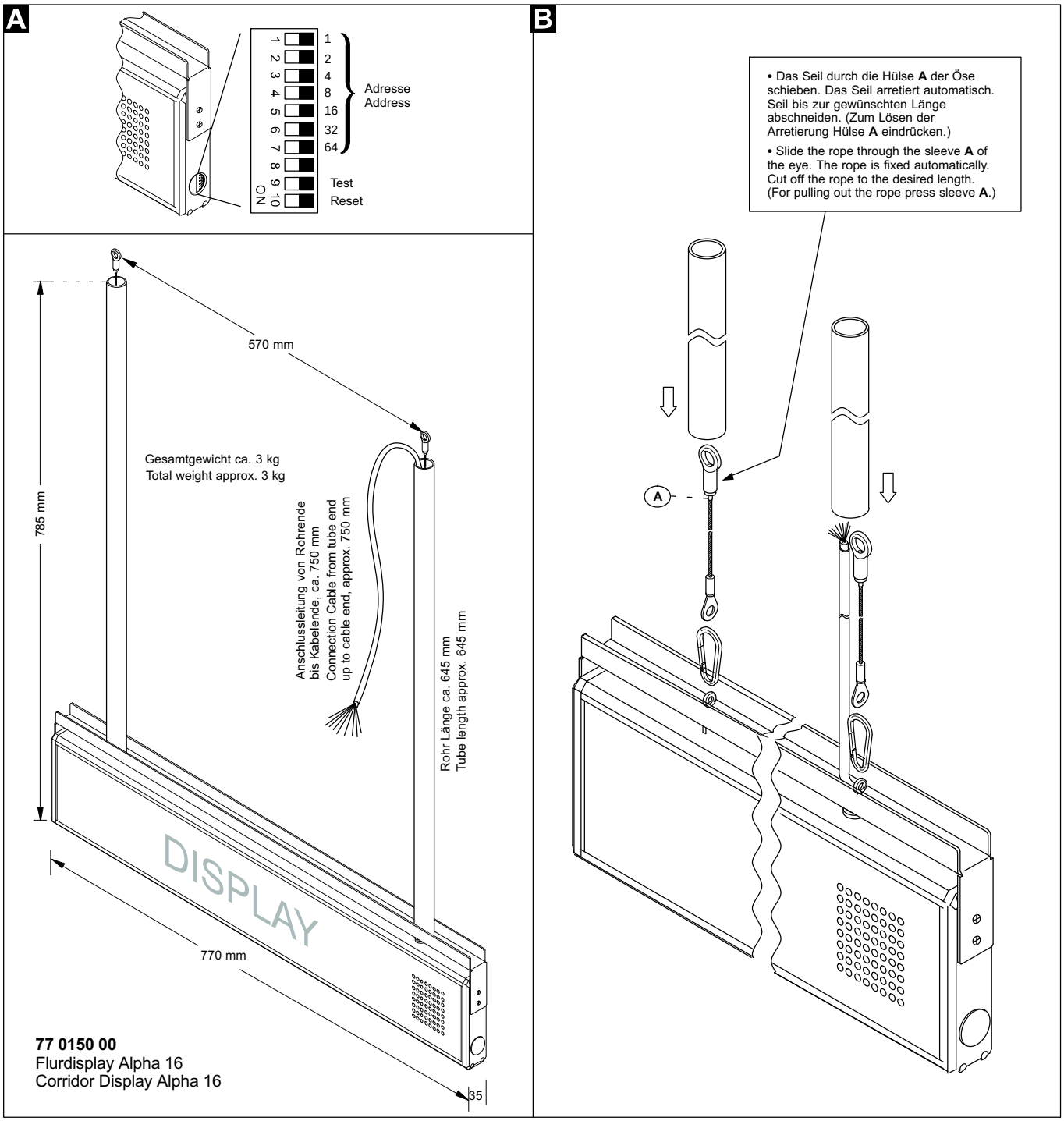
Examples: Address 1 is set by using the code switch 1. Address 4 is set by using the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

After the address is changed while system operation a **reset** has to be made. For the reset set code switch 10 for one second to ON.

B Mounting

The corridor display is designed for mounting in corridors or duty rooms.

The standard accessory is used for ceiling mounting.



CE

00 8802 43, 02/13 (Rev. 3.0)

Tunstall

C Anschluss

Das Flurdisplay wird direkt an den Gruppenbus OSYnet angeschlossen. Die freien Drahtenden der Anschlussleitung dienen zum bauseitigen Anschluss.

D Funktionstest

Wenn das Flurdisplay angeschlossen ist, sollte ein Funktionstest durchgeführt werden.

- Zum Starten des Funktionstest Codierschalter 9 “Test” auf ON setzen.

Das Display durchläuft nun die im Folgenden beschriebenen Testschritte. Jeder Schritt dauert ca. 2 Sekunden.

Display zeigt:	Test ok, wenn...	Was wird getestet?
Start Test	*Funktionstest startet.*	
Tunstall GmbH Display Check 0123456789abcdef	Die 3 Texte werden nacheinander angezeigt.	Optische Anzeige.
Buzzer test	*Tongeber-Test startet.*	
Buzzer: low	Leiser Signalton ertönt.	Tongeber-Einstellung “leise”.
Buzzer: medium	Mittel-lauter Signalton ertönt.	Tongeber-Einstellung “mittel”.
Buzzer: loud	Lauter Signalton ertönt.	Tongeber-Einstellung “laut”.
Buzzer OFF	*Tongeber wird ausgeschaltet.*	
Speech relay 1 ON	Leises Klicken eines Relais ist zu hören.	Sprechkanal 1 der Rufanlage.
Speech relay 2 ON	Leises Klicken eines Relais ist zu hören.	Sprechkanal 2 der Rufanlage.
Speech relays OFF	Klicken von Relais ist zu hören.	Sprechkanäle werden geschlossen.
|||||||||||||||||||||||||||||| (Anzeige in Laufschrift)	Anzeige ohne “Löcher”. Löcher zeigen defekte LEDs an.	Funktionsfähigkeit der LEDs.
To stop the test: DIP switch 9 -> OFF	*Zum Beenden des Tests den Codierschalter 9 auf OFF setzen.*	
End of Test	*Test beendet.*	
00:00 (Uhrzeit)	*Wenn OSYnet angeschlossen: Anzeige der Systemuhrzeit. Sonst läuft die interne Uhr des Flurdisplays ab 00:00 Uhr.*	

C Connection

The corridor display is directly connected to the group bus OSYnet. Use the free wire ends of the connection cable for on site connection.

D Functional test

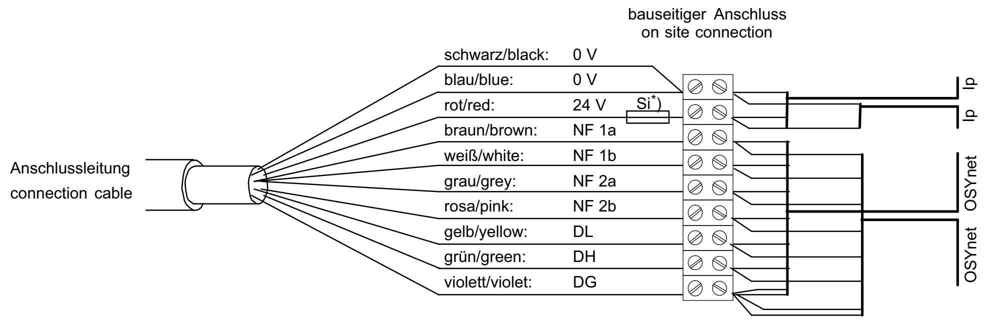
When the corridor display is connected, a functional test should be carried out.

- To start the functional test set code switch 9 “Test” to ON.

The corridor display will run through the test steps described in the following table. Each step takes approx. 2 seconds.

Display shows:	Test ok, if...	What is being tested?
Start Test	*Functional test starts.*	
Tunstall GmbH Display Check 0123456789abcdef	The 3 texts are displayed one after the other.	Optical display.
Buzzer test	*Buzzer test starts.*	
Buzzer: low	Low signal tone sounds.	Buzzer setting “low”.
Buzzer: medium	Medium signal tone sounds.	Buzzer setting “medium”.
Buzzer: loud	Loud signal tone sounds.	Buzzer setting “loud”.
Buzzer OFF	*Buzzer is switched off.*	
Speech relay 1 ON	Low relay click can be heard.	Speech channel 1 of system.
Speech relay 2 ON	Low relay click can be heard.	Speech channel 2 of system.
Speech relays OFF	Relay click can be heard.	Speech channels are closed.
|||||||||||||||||||||||||||||| (displayed as ticker)	Display without “holes”. Holes show defective LEDs.	LED function.
To stop the test: DIP switch 9 -> OFF	*To stop the test set code switch 9 to OFF.*	
End of Test	*Test ended.*	
00:00 (time)	*If OSYnet is connected: System time is displayed. Otherwise internal clock of corridor display starts at 00:00 h.*	

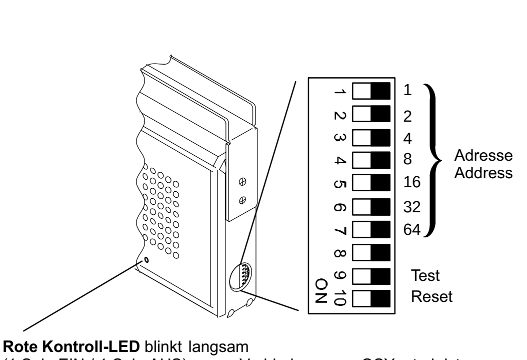
C



*) Steck-Schraubklemme mit Si-Halter (00 0224 81), Sicherung F1A (00 0130 24)

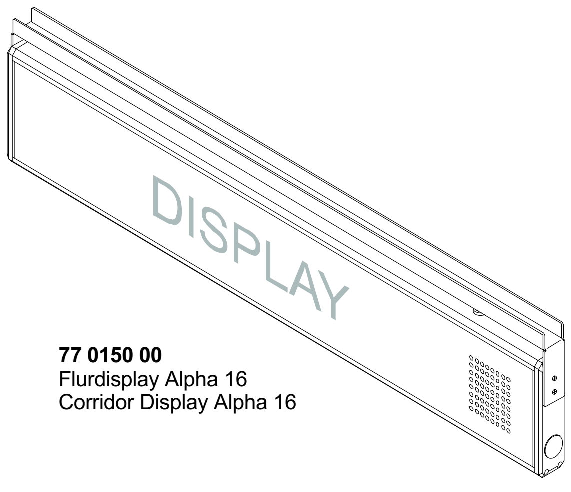
*) Plug-in screw terminal with fuseholder (00 0224 81), Fuse F1A (00 0130 24)

D



Rote Kontroll-LED blinkt langsam (1 Sek. EIN / 1 Sek. AUS), wenn Verbindung zum OSYnet ok ist. Sonst liegt eine Störung vor.

Red control LED flashes slowly (1 sec ON, 1 sec OFF), if connection to OSYnet is ok. Otherwise there is a fault.



77 0150 00
Flurdisplay Alpha 16
Corridor Display Alpha 16

00 8802 43, 02/13 (Rev. 3.0)

Installationsanleitung D

Flurdisplay Alpha 16, doppelseitig, Best.-Nr. 77 0160 00
Doppelseitiges Display zur Anzeige von Rufen und allgem. Systeminformationen.

- 16 Zeichen alphanumerisch
- Automatische Anzeige als Laufschrift bei längeren Texten
- Tongeber zur Anzeige von nachgesendeten Rufen
- Lautsprecher z.B. für Durchsagen und Signaltöne
- Stromaufnahme: 600 mA (Durchschnitt)

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Montage

Das Flurdisplay ist vorgesehen zur Montage in Fluren oder Diensträumen.
Das mitgelieferte Zubehör dient zur Deckenmontage.

Installation Instructions GB

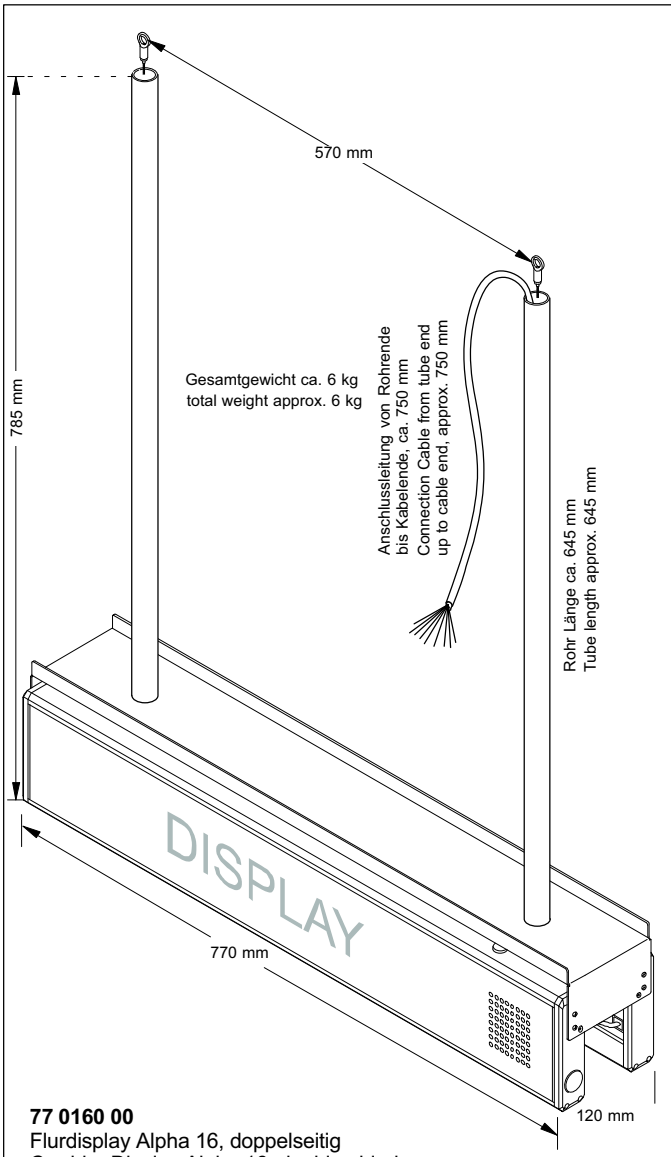
Corridor Display Alpha 16, double-sided, order no. 77 0160 00
Double-sided display for indication of calls and general system information.

- 16 digits, alphanumeric
- Longer texts are automatically displayed as ticker
- Tone generator for signalling forwarded calls
- Loudspeaker, e.g. for announcements or signal tones
- Supply current: 600 mA (average)

Note! The complete installation of the system is described in the technical manual.

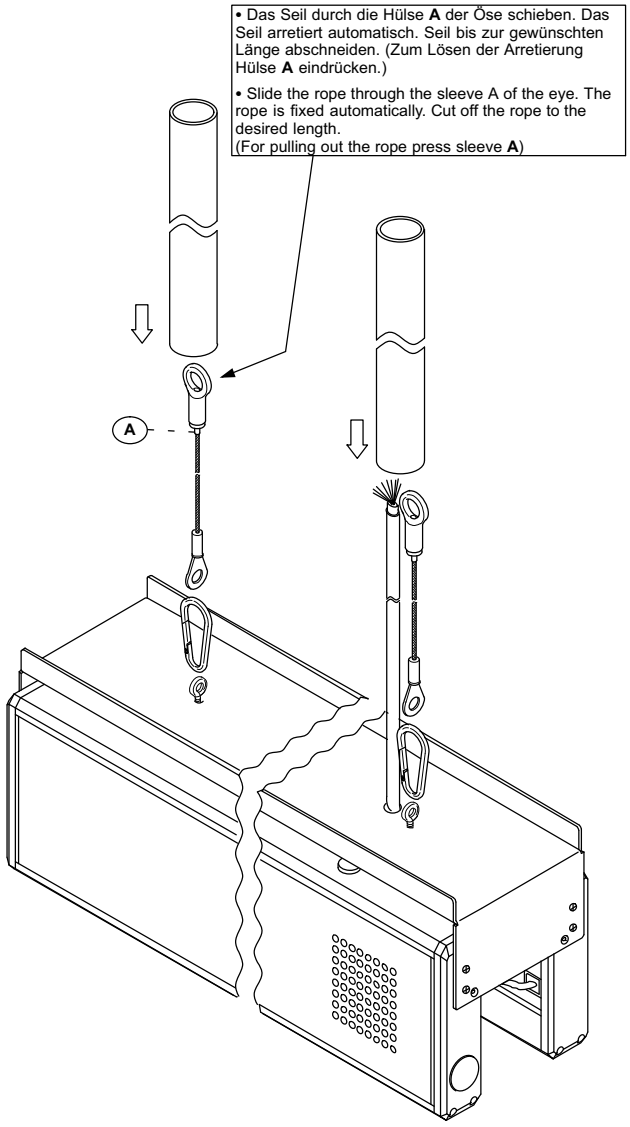
A Mounting

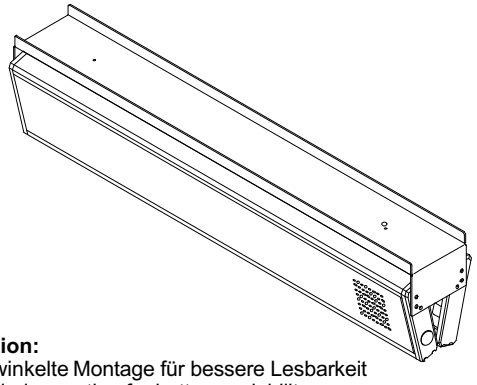
The corridor display is designed for mounting in corridors or duty rooms.
The standard accessory is used for ceiling mounting.



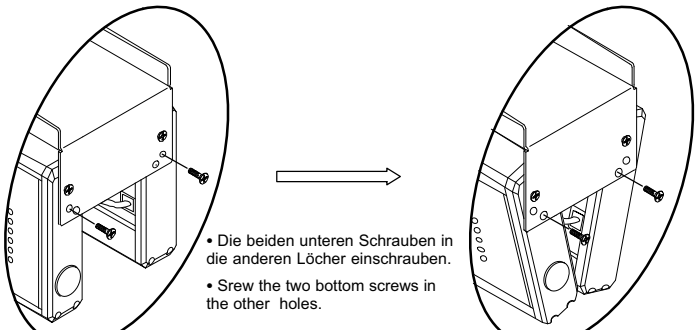
77 0160 00
Flurdisplay Alpha 16, doppelseitig
Corridor Display Alpha 16, double-sided

A





Option:
Gewinkelte Montage für bessere Lesbarkeit
Angled mounting for better readability



Gerade Montage
Upright mounting

Gewinkelte Montage
Angled mounting

CE

Anschlüsse D

B Anschluss

Das Flurdisplay wird direkt an den Gruppenbus OSYnet angeschlossen. Die freien Drahtenden der Anschlussleitung dienen zum bauseitigen Anschluss.

C Adresse einstellen (1 - 110)

In einem der beiden Displays befindet sich hinter der seitlichen Schutzkappe ein 10-teiliger Codierschalter. Zum Einstellen der Adresse dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 wird durch Einschalten des Codierschalters 3 eingestellt.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Wenn die Adresse während des Betriebs geändert wird, muss anschließend ein **Reset** durchgeführt werden. Für den Reset Codierschalter 10 für eine Sekunde auf ON setzen.

D Funktionstest

Nach dem Anschließen des Flurdisplays sollte ein Funktionstest durchgeführt werden.

- Zum Starten des Funktionstest Codierschalter 9 "Test" auf ON setzen.

Das Display durchläuft nun die im Folgenden beschriebenen Testschritte. Jeder Schritt dauert ca. 2 Sekunden. Sie müssen den Test zweimal durchführen, d.h. jeweils ein Display beobachten.

Display zeigt:	Test ok, wenn...	Was wird getestet?
Start Test	*Funktionstest startet.*	
Tunstall GmbH Display Check 0123456789abcdef	Die 3 Texte werden nacheinander angezeigt.	Optische Anzeige.
Buzzer test	*Tongeber-Test startet.*	
Buzzer: low	Leiser Signalton ertönt.	Tongeber-Einstellung "leise".
Buzzer: medium	Mittel-lauter Signalton ertönt.	Tongeber-Einstellung "mittel".
Buzzer: loud	Lauter Signalton ertönt.	Tongeber-Einstellung "laut".
Buzzer OFF	*Tongeber wird ausgeschaltet.*	
Speech relay 1 ON	Leises Klicken eines Relais ist zu hören. 1)	Sprechkanal 1 der Rufanlage.
Speech relay 2 ON	Leises Klicken eines Relais ist zu hören.1)	Sprechkanal 2 der Rufanlage.
Speech relays OFF	Klicken von Relais ist zu hören.1)	Sprechkanäle werden geschlossen.
IIIIIIIIIIIIIIIIIIIIIIIIII (Anzeige in Laufschrift)	Anzeige ohne "Löcher". Löcher zeigen defekte LEDs an.	Funktionsfähigkeit der LEDs.
To stop the test: DIP switch 9 -> OFF	*Zum Beenden des Tests den Codierschalter 9 auf OFF setzen.*	
End of Test	*Test beendet.*	
00:00 (Uhrzeit)	*Wenn OSYnet angeschlossen: Anzeige der Systemuhrzeit. Sonst läuft interne Uhr des Flurdisplays ab 00:00 Uhr.*	

1) Die Relais für die beiden Sprechkanäle befinden sich nur in dem Display, in dem sich auch der Codierschalter befindet.

Connections GB

B Connection

The corridor display is directly connected to the group bus OSYnet. Use the free wire ends of the connection cable for on site connection.

C Setting of address (1 - 110)

Behind the protection cover at the side of one display there is a 10 part code switch. For setting the address please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 is set by using the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

After the address is changed while system operation a **reset** has to be made. For the reset set code switch 10 for one second to ON.

D Functional test

After the corridor display has been connected, a functional test should be carried out.

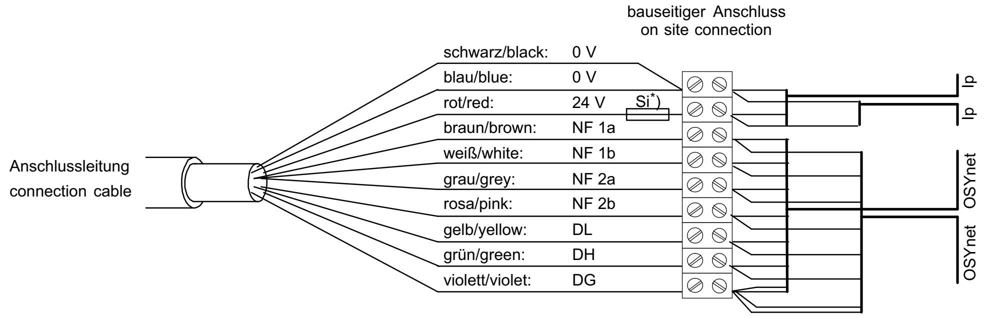
- To start the functional test set code switch 9 "Test" to ON.

The corridor display will run through the test steps described in the following table. Each step takes approx. 2 seconds. You have to carry out the test twice, i.e. check each display separately.

Display shows:	Test ok, if...	What is being tested?
Start Test	*Functional test starts.*	
Tunstall GmbH Display Check 0123456789abcdef	The 3 texts are displayed one after the other.	Optical display.
Buzzer test	*Buzzer test starts.*	
Buzzer: low	Low signal tone sounds.	Buzzer setting "low".
Buzzer: medium	Medium signal tone sounds.	Buzzer setting "medium".
Buzzer: loud	Loud signal tone sounds.	Buzzer setting "loud".
Buzzer OFF	*Buzzer is switched off.*	
Speech relay 1 ON	Low relay click can be heard. 1)	Speech channel 1 of system.
Speech relay 2 ON	Low relay click can be heard. 1)	Speech channel 2 of system.
Speech relays OFF	Relay click can be heard. 1)	Speech channels are closed.
IIIIIIIIIIIIIIIIIIIIIIIIII (displayed as ticker)	Display without "holes". Holes show defective LEDs.	LED function.
To stop the test: DIP switch 9 -> OFF	*To stop the test set code switch 9 to OFF.*	
End of Test	*Test ended.*	
00:00 (time)	*If OSYnet is connected: System time is displayed. Otherwise internal clock of corridor display starts at 00:00 h.*	

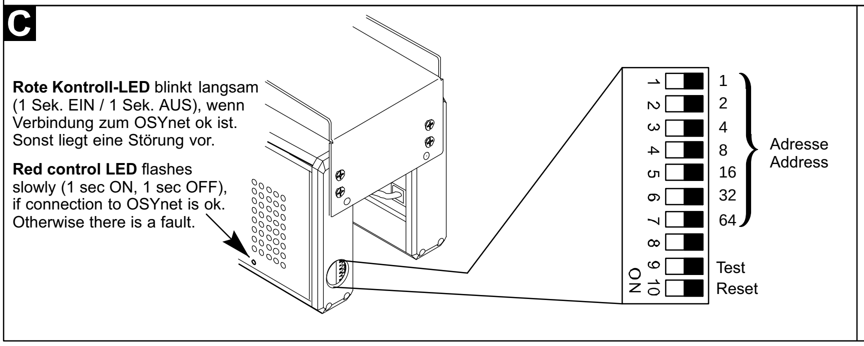
1) The relays for the speech channels are only in the display with the coding switch.

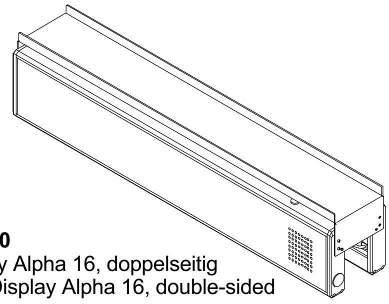
B



*) Steck-Schraubklemme mit Si-Halter (00 0224 81) Sicherung F1A (00 0130 24)
*) Plug-in screw terminal with fuseholder (00 0224 81) Fuse F1A (00 0130 24)

C





77 0160 00
Flurdisplay Alpha 16, doppelseitig
Corridor Display Alpha 16, double-sided

DE - Installationsanleitung

Zimmerleuchte, 3-teilig, Best.-Nr. 77 0170 00

Anzeige von allen Rufarten und Personalanwesenheiten.

Zimmerleuchte, 3-teilig, Glasdekor, Best.-Nr. 77 0175 00

Wie 77 0170 00, jedoch Glas-Dekorrahmen.

Zimmerleuchte Alarm, WC, Best.-Nr. 77 0170 01

Ergänzung zu Zimmerleuchte 77 0170 00 zur eindeutigen Anzeige von Alarmrufen und/oder WC-Rufen. Montage im Flur neben 77 0170 00 oder im Zimmer am WC-Eingang.

Zimmerleuchte Alarm, WC, Glasdekor, 77 0175 01

Wie 77 0170 01, jedoch Ergänzung zu Zimmerleuchte 77 0175 00, Glas-Dekorrahmen.

Zimmerleuchte, 4-teilig, Best.-Nr. 77 0170 10

Anzeige von allen Rufarten und Personalanwesenheiten sowie zusätzliche Anzeige für WC-Ruf.

Zimmerleuchte, 4-teilig, Glasdekor, Best.-Nr. 77 0175 10

Wie 77 0170 10, jedoch Glas-Dekorrahmen.

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte und die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Anschluss

1. Das Anschlusskabel in der Einbaudose auf geeignete Länge abmanteln.
2. Kabelschirm und Beidraht bis zum Kabelmantel entfernen. Adern abisolieren.
3. Adern gemäß Abb. **A** an der Anschlussklemme [3] anschließen.

Achtung! Die unbenutzten Adern dürfen nicht durchverbunden werden.

B DIP-Schalter, 4-polig

DIP-Schalter 1 – 3: Kanalcodierung

Die Zimmerleuchten können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden. Die einzustellende Kanalnummer entnehmen Sie dem entsprechenden Installationsplan. Kanalnummer gemäß Abb. **B** einstellen.

DIP-Schalter 4: Signalisierung

OFF = Tunstall-Standard (Werkseinstellung)

ON = Frische und abgefragte Rufe können anhand der Zimmerleuchte nicht unterschieden werden.

EN - Installation Instructions

Room lamp, 3 sections, order no. 77 0170 00

Signalling of all call types and staff presences.

Room lamp, 3 sections, glass decor order no. 77 0175 00

Same as 77 0170 00, but decorative glass frame.

Room lamp cardiac alarm, WC, order no. 77 0170 01

Complement to room lamp 77 0170 00 for explicit signalling of cardiac alarm and/or WC calls. Mounting either in the corridor next to 77 0170 00 or next to the WC door in the patient room.

Room lamp cardiac alarm, WC, glass decor, 77 0175 01

Same as 77 0170 01, but as complement to 77 0175 00, decorative glass frame.

Room lamp, 4 sections, order no. 77 0170 10

Signalling of all call types and staff presences as well as additional display for WC call.

Room lamp, 4 sections, glass decor, order no. 77 0175 10

Same as 77 0170 10, but decorative glass frame.

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

A Connection

1. Strip the connecting cable in the back box to a suitable length.
2. Remove the cable shield and drain wire up to the cable sheath. Strip the wires.
3. Connect the wires to the connector [3] according to fig. **A**.

CAUTION! The unused wires must not be connected through.

B DIP switch, 4 pole

DIP switch 1 – 3: Channel coding

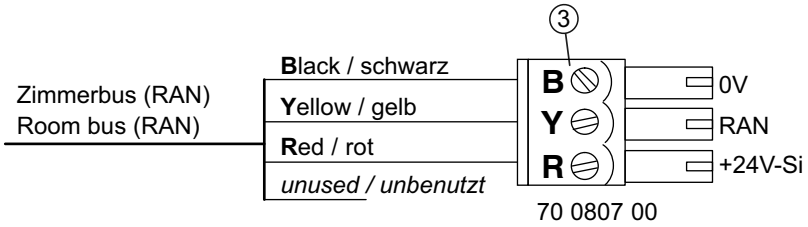
If functional units are requested, the room lamps have to be assigned to different channels. For the channel number to be set please refer to the installation plan. Set the channel number according to fig. **B**.

DIP switch 4: Signalling

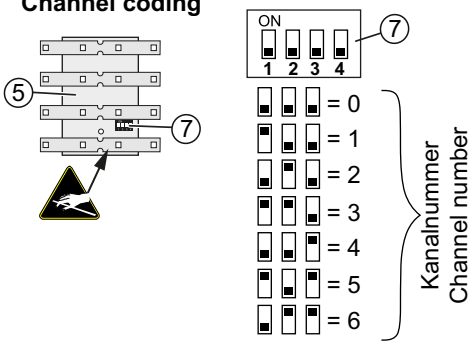
OFF = Tunstall standard (factory setting)

ON = At the room lamp, fresh calls cannot be distinguished from answered calls.

A **Anschluss an Zimmerbus (RAN) ohne Sprechen**
Connection to room bus (RAN) without speech

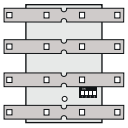


B **Kanalcodierung**
Channel coding



DE - Installationsanleitung

Farben der LED-Module

Leuchte:	77 0170 00 77 0175 00	77 0170 01 77 0175 01	77 0170 10 77 0175 10
	rot: Rufe	blau: Alarmruf	rot: Rufe
	grün: Personal 1	blau: Alarmruf	grün: Personal 1
	gelb: Personal 2	weiß: WC-Ruf	gelb: Personal 2
	kein LED-Modul	kein LED-Modul	weiß: WC-Ruf

C Montage

Im Auslieferungszustand ist die Zimmerleuchte zusammengebaut und muss wie folgt auseinander gebaut werden, siehe Abb. **D**:

- Lichtkuppel [8] von oben und unten leicht zusammendrücken und dann abziehen.

Wandeinbau auf einteilige Einbaudose [1] mit Schraubbefestigung auf die seitlichen Löcher der Einbaudose ***)**:

1. Adern vorbereiten und an Anschlussklemme [3] anschließen (siehe Abschnitt „Anschluss“).
2. Anschlussklemme [3] von hinten auf die Leiterplatte [5] (in der Rückwand des Gehäuses [2]) aufstecken.
3. Gehäuse [2] mit den Schrauben [4] auf der Einbaudose [1] festschrauben. Der Pfeil in der Gehäuserückwand zeigt nach oben.
4. Lichtkuppel mit Trenneinsatz [8] auf den Dekorrahmen drücken, bis sie hörbar einrastet.

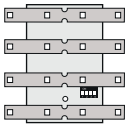
***) Hinweis:** Für eine Montage auf den vertikalen Löchern der Einbaudose muss die Leiterplatte ausgebaut werden:

1. Befestigungsschraube [6] der Leiterplatte lösen und die Leiterplatte [5] entnehmen (erst unten, dann oben).
2. Montage der Leiterplatte [5] in umgekehrter Reihenfolge.

Hinweis! Die Zimmerleuchte, 4-teilig, entspricht 1 am Raumterminal einzustellenden RAN-Teilnehmer. Das Vorgängermodell entsprach 2 RAN-Teilnehmern. Erkennungsmerkmal des Vorgängermodells: Es hat keinen DIP-Schalter [7].

EN - Installation Instructions

LED module colours

Lamp:	77 0170 00 77 0175 00	77 0170 01 77 0175 01	77 0170 10 77 0175 10
	red: calls	blue: cardiac alarm	red: calls
	green: staff 1	blue: cardiac alarm	green: staff 1
	yellow: staff 2	white: WC call	yellow: staff 2
	no LED module	no LED module	white: WC call

C Mounting

At the point of delivery the room lamp is assembled and must be dismantled as follows, see fig. **D**:

- Lightly compress the light dome [8] from top and bottom. Then pull off the light dome [8].

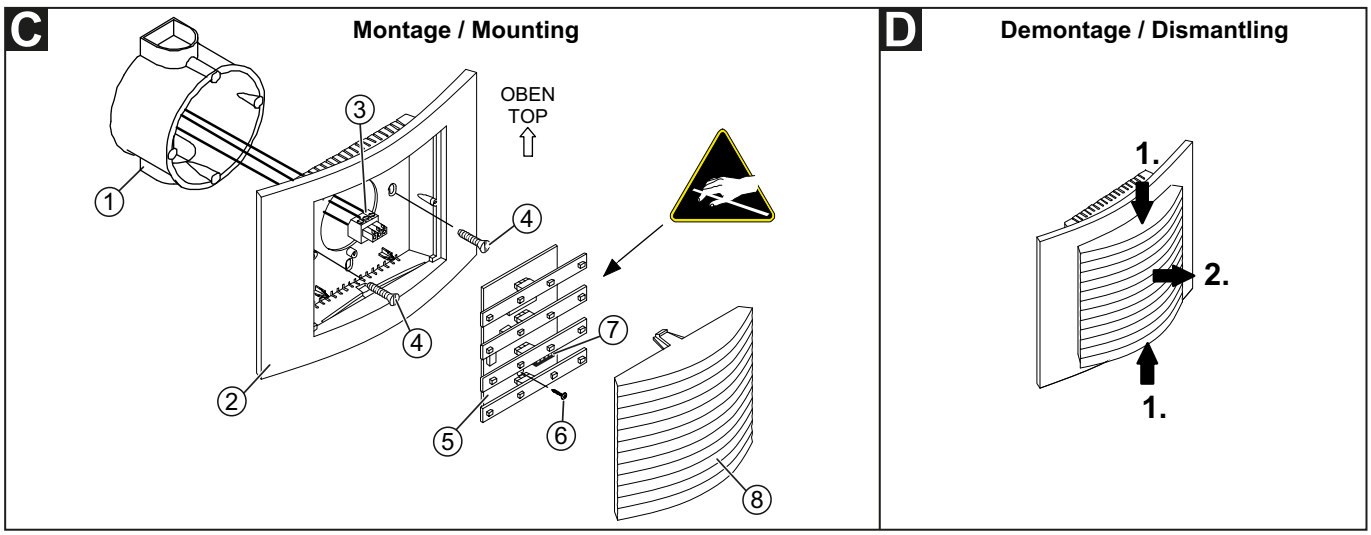
Wall installation on a one-gang back box [1] fixed with screws on the lateral holes of the back box ***)**:

1. Prepare the wires and connect them to the connector [3] (see section "Connection").
2. Plug the connector [3] from the rear onto the PCB [5] (in the rear of the housing [2]).
3. Bolt the housing [2] to the back box [1] with the screws [4]. The arrow on the rear of the housing points toward the top.
4. Press the light dome with insert module [8] onto the decorative frame until it latches in audibly.

***) NOTE:** To mount the room lamp on the vertical holes of the back box, the PCB must be removed temporarily:

1. Loosen the fastening screw [6] of the PCB and remove the PCB [5] (first bottom, then top).
2. The PCB [5] is installed in the reverse order.

Note! The room lamp, 4 sections, equals to 1 RAN user to be set at the room terminal. The previous model equalled to 2 RAN users. Distinctive mark of the previous model: It has no DIP switch [7].



1 - * Einbaudose
2 - Gehäuse (Aussehen des Glas-Dekorrahmens abweichend)
3 - * Anschlussklemme (70 0807 00)
4 - * Schrauben der Einbaudose
5 - Leiterplatte mit LED-Modulen
6 - Befestigungsschraube für die Leiterplatte
7 - DIP-Schalter
8 - Lichtkuppel mit Trenneinsatz

* Nicht im Lieferumfang enthalten, separat bestellen.

1 - * Back box
2 - Housing (glass decorative frame looks different)
3 - * Connector (70 0807 00)
4 - * Back box screws
5 - Printed circuit board (PCB) with LED modules
6 - Fastening screw for the PCB
7 - DIP switch
8 - Light dome with insert module

* Not included in the scope of delivery, please order separately.

DE - Installationsanleitung

Zimmerleuchte, 3-teilig, mit Türschild,
Best.-Nr. 77 0171 00

Anzeige von allen Rufarten und Personalanwesenheiten. Türschild als Beschriftungsfeld für die Raumbezeichnung.

Zimmerleuchte, 4-teilig, mit Türschild,
Best.-Nr. 77 0171 10

Wie 77 0171 00, jedoch mit zusätzlicher Anzeige für WC-Ruf.

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte und die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Anschluss

1. Das Anschlusskabel in der Einbaudose auf geeignete Länge abmanteln.
2. Kabelschirm und Beidraht bis zum Kabelmantel entfernen. Adern abisolieren.
3. Adern gemäß Abb. **A** an der Anschlussklemme [3] anschließen.

Achtung! Die unbenutzten Adern dürfen nicht durchverbunden werden.

B DIP-Schalter, 4-polig

DIP-Schalter 1 – 3: Kanalcodierung

Die Zimmerleuchten können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden. Die einzustellende Kanalnummer entnehmen Sie dem entsprechenden Installationsplan. Kanalnummer gemäß Abb. **B** einstellen.

DIP-Schalter 4: Signalisierung

OFF = Tunstall-Standard (Werkseinstellung)

ON = Frische und abgefragte Rufe können anhand der Zimmerleuchte nicht unterschieden werden.

EN - Installation Instructions

Room lamp, 3 sections, with doorplate,
order no. 77 0171 00

Signalling of all call types and staff presences. Doorplate as label field for room designation.

Room lamp, 4 sections, with doorplate,
order no. 77 0171 10

Same as 77 0171 00, but with additional display for WC call.

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

A Connection

1. Strip the connecting cable in the back box to a suitable length.
2. Remove the cable shield and drain wire up to the cable sheath. Strip the wires.
3. Connect the wires to the connector [3] according to fig. **A**.

CAUTION! The unused wires must not be connected through.

B DIP switch, 4 pole

DIP switch 1 – 3: Channel coding

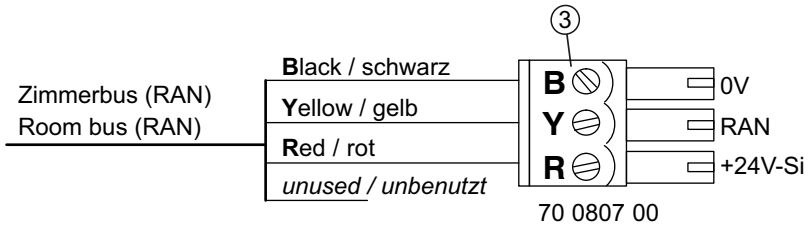
If functional units are requested, the room lamps have to be assigned to different channels. For the channel number to be set please refer to the installation plan. Set the channel number according to fig. **B**.

DIP switch 4: Signalling

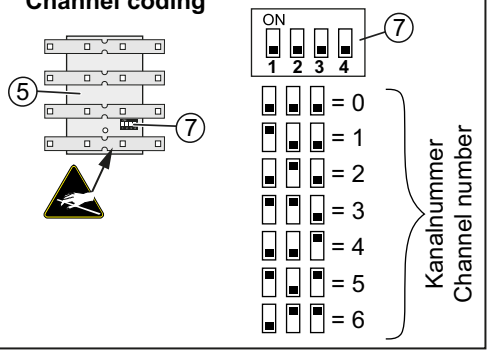
OFF = Tunstall standard (factory setting)

ON = At the room lamp, fresh calls cannot be distinguished from answered calls.

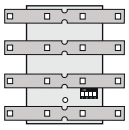
A **Anschluss an Zimmerbus (RAN) ohne Sprechen**
Connection to room bus (RAN) without speech



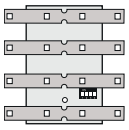
B **Kanalcodierung**
Channel coding



Farben der LED-Module

Leuchte:	77 0171 00	77 0171 10
	rot: Rufe	rot: Rufe
	grün: Personal 1	grün: Personal 1
	gelb: Personal 2	gelb: Personal 2
	kein LED-Modul	weiß: WC-Ruf

LED module colours

Lamp:	77 0171 00	77 0171 10
	red: calls	red: calls
	green: staff 1	green: staff 1
	yellow: staff 2	yellow: staff 2
	no LED module	white: WC call

DE - Installationsanleitung

C Montage

Im Auslieferungszustand ist die Zimmerleuchte zusammengebaut und muss wie folgt auseinander gebaut werden, siehe Abb. **D**:

- Lichtkuppel [8] von oben und unten leicht zusammendrücken und dann abziehen.

Wandeinbau auf einteilige Einbaudose [1] mit Schraubbefestigung auf die seitlichen Löcher der Einbaudose ***)**:

1. Adern vorbereiten und an Anschlussklemme [3] anschließen (siehe Abschnitt „Anschluss“).
2. Anschlussklemme [3] von hinten auf die Leiterplatte [5] (in der Rückwand des Gehäuses [2]) aufstecken.
3. Gehäuse [2] mit den Schrauben [4] auf der Einbaudose [1] festschrauben. Der Pfeil in der Gehäuserückwand zeigt nach oben.
4. Lichtkuppel mit Trenneinsatz [8] auf den Dekorrahmen drücken, bis sie hörbar einrastet.
5. Namensschild [9] und Schutzabdeckung [10] einlegen.

***) Hinweis:** Für eine Montage auf den vertikalen Löchern der Einbaudose muss die Leiterplatte ausgebaut werden:

1. Befestigungsschraube [6] der Leiterplatte lösen und die Leiterplatte [5] entnehmen (erst unten, dann oben).
2. Montage der Leiterplatte [5] in umgekehrter Reihenfolge.

Hinweis! Die Zimmerleuchte, 4-teilig, entspricht 1 am Raumterminal einzustellenden RAN-Teilnehmer. Das Vorgängermodell entsprach 2 RAN-Teilnehmern. Erkennungsmerkmal des Vorgängermodells: Es hat keinen DIP-Schalter [7]..

EN - Installation Instructions

C Mounting

At the point of delivery the room lamp is assembled and must be dismantled as follows, see fig. **D**:

- Lightly compress the light dome [8] from top and bottom. Then pull off the light dome [8].

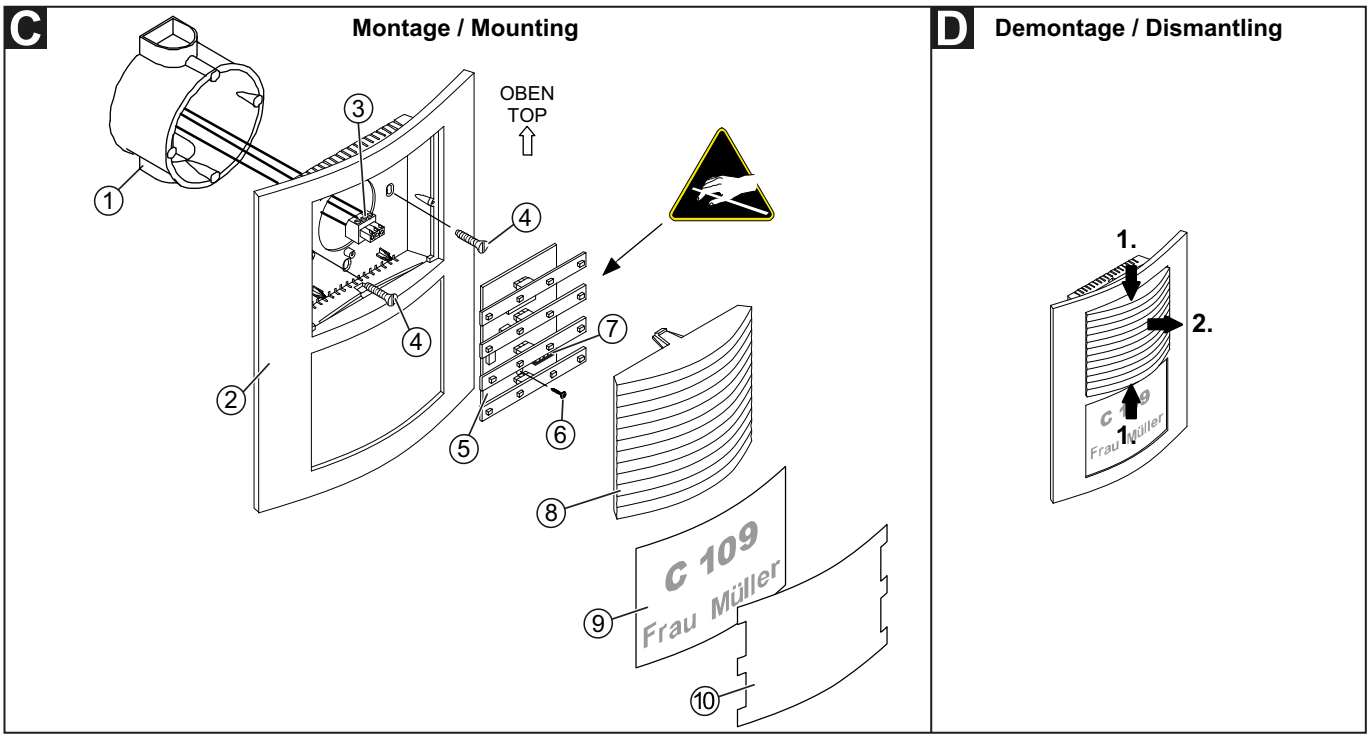
Wall installation on a one-gang back box [1] fixed with screws on the lateral holes of the back box ***)**:

1. Prepare the wires and connect them to the connector [3] (see section "Connection").
2. Plug the connector [3] from the rear onto the PCB [5] (in the rear of the housing [2]).
3. Bolt the housing [2] to the back box [1] with the screws [4]. The arrow on the rear of the housing points toward the top.
4. Press the light dome with insert module [8] onto the decorative frame until it latches in audibly.
5. Insert the label strip [9] and the protection cover [10].

***) NOTE:** To mount the room lamp on the vertical holes of the back box, the PCB must be removed temporarily:

1. Loosen the fastening screw [6] of the PCB and remove the PCB [5] (first bottom, then top).
2. The PCB [5] is installed in the reverse order.

Note! The room lamp, 4 sections, equals to 1 RAN user to be set at the room terminal. The previous model equalled to 2 RAN users. Distinctive mark of the previous model: It has no DIP switch [7].



1 - * Einbaudose
2 - Gehäuse
3 - * Anschlussklemme (70 0807 00)
4 - * Schrauben der Einbaudose
5 - Leiterplatte mit LED-Modulen
6 - Befestigungsschraube für die Leiterplatte
7 - DIP-Schalter
8 - Lichtkuppel mit Trenneinsatz
9 - * Namensschild (Höhe x Breite: 70 x 92 mm)
10 - Schutzabdeckung

* Nicht im Lieferumfang enthalten, separat bestellen.

1 - * Back box
2 - Housing
3 - * Connector (70 0807 00)
4 - * Back box screws
5 - Printed circuit board (PCB) with LED modules
6 - Fastening screw for the PCB
7 - DIP switch
8 - Light dome with insert module
9 - * Label strip (Height x Width: 70 x 92 mm)
10 - Protection cover

* Not included in the scope of delivery, please order separately.

Installationsanleitung D

Zimmerleuchte Universal, 3-teilig, Best.-Nr. 77 0180 10
zur optischen Anzeige von allen Rufarten und Personalanwesenheit 1 sowie zusätzliche Anzeige für WC-Ruf. Wandmontage.

Zimmerleuchte Universal, 4-teilig, Best.-Nr. 77 0180 00
wie 77 0180 10, jedoch zusätzlich mit Personalanwesenheit 2.

Zimmerleuchte Universal, 2-teilig, Best.-Nr. 77 0182 10
zur optischen Anzeige von Personalanwesenheit 1 und von Telefonruf. Wandmontage.

Zimmerleuchte Universal, 1-teilig, Best.-Nr. 77 0182 50
zur optischen Anzeige von allen Rufarten. Wandmontage.

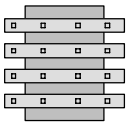
Achtung! Die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

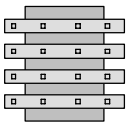
1*	Einbaudose	**5**	Dekorrahmen
2	Gehäuse-Rückwand	**6**	Befestigungsschrauben
3*	Anschlussklemme (70 0807 07)	**7**	Lichtkuppel mit Trenneinsatz
4	Leiterplatte mit LED-Modulen	* ist nicht im Lieferumfang enthalten.	

1. Gehäuse-Rückwand **2** mit den Schrauben der Einbaudose an der Einbaudose **1** festschrauben. Einbaurichtung beachten, siehe Markierung im Gehäuse.
2. Angeschlossene Anschlussklemme **3** in die eingebaute Buchse der Leiterplatte **4** stecken.
3. Leiterplatte **4** in die Gehäuse-Rückwand **2** einsetzen (erst oben, dann unten). Dabei die beiden Löcher unten in der Leiterplatte **4** auf die Arretierungsstifte der Gehäuse-Rückwand **2** stecken.
4. LED-Module gemäß der folgenden Übersicht auf die Leiterplatte stecken.
5. Dekorrahmen **5** mit den Befestigungsschrauben **6** auf die Gehäuse-Rückwand **2** schrauben.
6. Lichtkuppel mit Trenneinsatz **7** auf den Dekorrahmen **5** drücken bis sie einrastet.

Farben der LED-Module



Anschlusspunkt	77 0180 10	77 0180 00
L1	rot: Rufe	rot: Rufe
L2	grün: Personal 1	grün: Personal 1
L3	kein LED-Modul	gelb: Personal 2
L4	weiß: WC-Ruf	weiß: WC-Ruf



Anschlusspunkt	77 0182 10	77 0182 50
L1	kein LED-Modul	rot: Rufe
L2	grün: Personal 1	kein LED-Modul
L3	weiß: Telefonruf	kein LED-Modul
L4	kein LED-Modul	kein LED-Modul

B Demontage

Lichtkuppel von oben und unten leicht zusammendrücken und dann abziehen.

Installation Instructions GB

Room lamp universal, 3 sections, order no. 77 0180 10
for optical signalling of all call types and staff presence 1 as well as additional display for WC call. Wall mounting.

Room lamp universal, 4 sections, order no. 77 0180 00
as 77 0180 10, but additionally with staff presence 2.

Room lamp universal, 2 sections, order no. 77 0182 10
for optical signalling of staff presence 1 and telephone call. Wall mounting.

Room lamp universal, 1 section, order no. 77 0182 50
for optical signalling of all call types. Wall mounting.

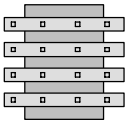
Attention! The LED modules include electrostatic sensitive components. Avoid touching.

A Mounting

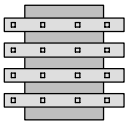
1*	Back box	**5**	Decorative frame
2	Pattress	**6**	Fixing screws
3*	Connector (70 0807 07)	**7**	Light dome with insert module
4	Printed circuit board (PCB) with LED modules	* not included with product delivery.	

1. Fit the pattress **2** with the back box screws to the back box **1**. For the correct mounting direction refer to the markings in the pattress.
2. Plug the pre-connected connector **3** into the socket on the PCB **4**.
3. Put the PCB **4** into the pattress **2** (first the top, then the bottom). The two holes on the base of the PCB must fit onto the fixing pins of the pattress **2**.
4. Plug the LED modules onto the PCB according to the following overview.
5. Fit the decorative frame **5** with the fixing screws **6** onto the pattress **2**.
6. Press the light dome with the insert module **7** onto the decorative frame **5** until it locks in place.

LED module colours



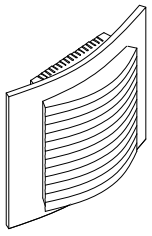
Connector	77 0180 10	77 0180 00
L1	red: calls	red: calls
L2	green: staff 1	green: staff 1
L3	no LED module	yellow: staff 2
L4	white: WC call	white: WC call



Connector	77 0182 10	77 0182 50
L1	no LED module	red: calls
L2	green: staff 1	no LED module
L3	white: telephone call	no LED module
L4	no LED module	no LED module

B Dismantling

Compress and pull off the light dome.



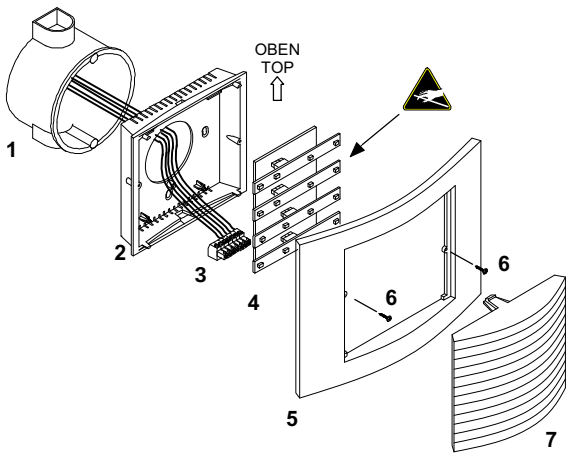
77 0180 10
Zimmerleuchte Universal , 3-teilig
Room lamp universal, 3 sections

77 0180 00
Zimmerleuchte Universal, 4-teilig
Room lamp universal, 4 sections

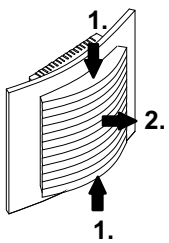
77 0182 10
Zimmerleuchte Universal , 2-teilig
Room lamp universal, 2 sections

77 0182 50
Zimmerleuchte Universal, 1-teilig
Room lamp universal, 1 section

A



B

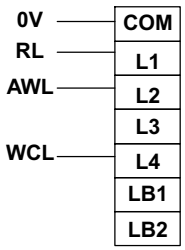


CE

77 0180 10

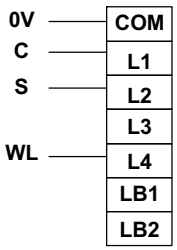
System EccoLine L200, NewLine L200:

Terminal L200



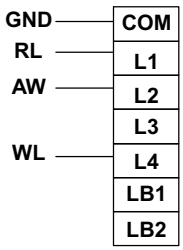
System CCS:

ComTerminal



System CONCENTO^{PLUS} / Concento:

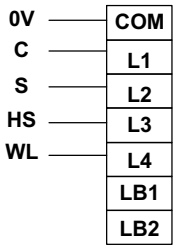
Terminal / Displaymodul / RAB /



77 0180 00

System CCS:

ComTerminal

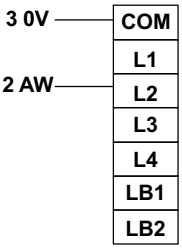


77 0182 10

System Flamenco, EccoLine mit Sprechen, EccoLine L200:
System Flamenco, EccoLine with speech, EccoLine L200:

Steckvorrichtung ComStation
(Bestell-Nr. 74 0452 30)
mit Anschluss einer ComStation^{BUS},
EccoLine ComStation
oder ComStation L200

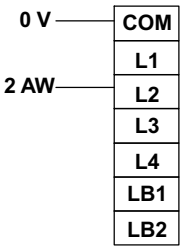
Connection socket ComStation
(order no. 74 0452 30)
with connection of a ComStation^{BUS},
EccoLine ComStation
or ComStation L200



System Flamenco:

Steckvorrichtung ComStation^{PC}
(Bestell-Nr. 74 0452 60A)
mit Anschluss einer ComStation^{PC}

Connection socket ComStation^{PC}
(order no. 74 0452 60A)
with connection of a ComStation^{PC}

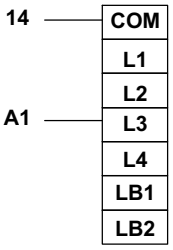


77 0182 10

System Flamenco:

Telefonanschaltrelais
(Bestell-Nr. 11 5350 00)

Telephone interface relay
(order no. 11 5350 00)

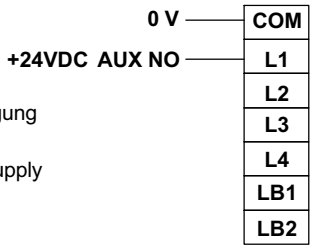


77 0182 50

System Communicall Connect:

PiperTerminal
mit 24VDC-Zusatzstromversorgung

Speech module
with 24VDC additional power supply



CE

DE - Installationsanleitung

Vorstellung der Taster

...*) Der Buchstabe am Ende der Best.-Nr. kennzeichnet den Rahmen des Tasters:

A = Abmessungen des Rahmens (HxB): 91 x 91 mm.

F = Abmessungen des Rahmens (HxB): 80 x 80 mm.

C = Abmessungen des Rahmens (HxB): 107 x 107 mm.
Vorsicht! Der Rahmen **C** besteht aus Echtglas!

Ruftaster, Best.-Nr. 77 0211 00...*)

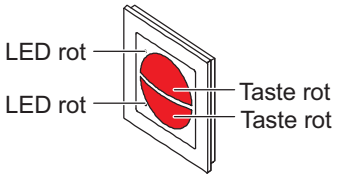
Zwei Ruftasten (rot) zum Auslösen von Rufen . Die LEDs (rot) leuchten schwach zum Finden der Tasten im Dunkeln (Findelicht). Die LEDs leuchten hell, sobald ein Ruf ausgelöst wird (Beruhigungslicht).

Optional einstellbar: Statt Rufen werden WC-Rufe ausgelöst.

Ruftaster/WC, Best.-Nr. 77 0211 01...*)

wie 77 0211 00..., jedoch für WC-Ruf.

Optional einstellbar: Statt WC-Rufen werden Rufe ausgelöst.

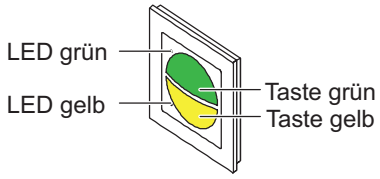


Anwesenheitstaster, Best.-Nr. 77 0212 00...*)

Zwei Anwesenheitstasten zum Ein- und Ausschalten der Anwesenheit (AW) für zwei unterschiedliche Personalgruppen. Die LEDs leuchten, wenn die jeweilige Anwesenheit eingeschaltet ist (Erinnerungslicht).

- Anwesenheitstaste (grün) mit LED (grün) für AW 1.
- Anwesenheitstaste (gelb) mit LED (gelb) für AW 2.

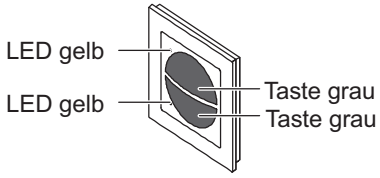
Funktion „Rufton“ aktivierbar, in der Werkseinstellung jedoch inaktiv; Details siehe Seite 4.



Abstelltaster/WC, Best.-Nr. 77 0213 00...*)

Zwei Abstelltasten (grau) zum Abstellen von WC-Rufen und WC-Notrufen. Die LEDs (gelb) leuchten, wenn ein WC-Ruf oder WC-Notruf ausgelöst wurde, der mit diesen Tasten abgestellt werden kann (Erinnerungslicht).

Funktion „Rufton“ aktivierbar, in der Werkseinstellung jedoch inaktiv; Details siehe Seite 4.



EN - Installation Instructions

Presentation of the switches

...*) The letter at the end of the order number represents the frame of the switch:

A = Frame dimensions (HxW): 91 x 91 mm.

F = Frame dimensions (HxW): 80 x 80 mm.

C = Frame dimensions (HxW): 107 x 107 mm.
Caution! The frame **C** is made from real glass!

Call switch, order no. 77 0211 00...*)

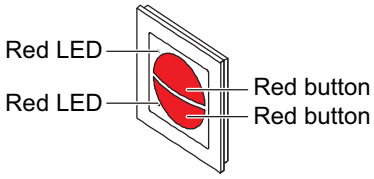
Two call buttons (red) for raising calls. The LEDs (red) are on with a weak light for finding the buttons in the dark (night location light). The LEDs are on with a bright light, when a call was raised (reassurance light).

Optional setting: WC calls are raised instead of calls.

Call switch/WC, order no. 77 0211 01...*)

same as 77 0211 00..., but for WC call.

Optional setting: Calls are raised instead of WC calls.

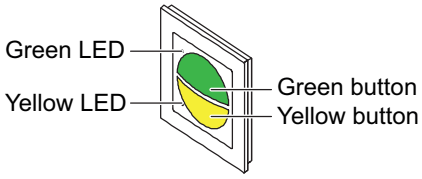


Staff presence switch, order no. 77 0212 00...*)

Two presence buttons for switching on and off the staff presence for two different staff groups. The LEDs are on, when the respective presence is switched on (reminder light).

- Presence button (green) with LED (green) for staff 1.
- Presence button (yellow) with LED (yellow) for staff 2.

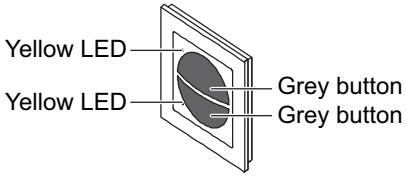
“Call tone” function available, but disabled in the factory setting; for details refer to page 4.



Cancel switch/WC, order no. 77 0213 00...*)

Two cancel buttons (grey) for cancelling WC calls and WC emergency calls. The LEDs (yellow) are on, when a WC call or a WC emergency is raised that can be cancelled with these buttons (reminder light).

“Call tone” function available, but disabled in the factory setting; for details refer to page 4.

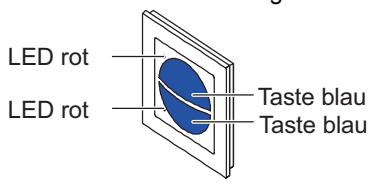


DE - Installationsanleitung

Alarmtaster, Best.-Nr. 77 0214 00...*)

Zwei Alarmtasten (blau) zum Auslösen von Alarmen, wenn die Anwesenheit im Raum eingeschaltet ist. Wenn der Alarmtaster aktiv ist, leuchten die LEDs (rot) schwach zum Finden der Tasten im Dunkeln (Findelicht). Die LEDs leuchten hell, sobald ein Alarm ausgelöst wird (Beruhigungslicht).

Optional einstellbar: Alarme können auch ausgelöst werden, wenn keine Anwesenheit im Raum eingeschaltet ist.

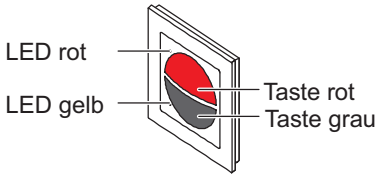


Ruftaster/WC mit Abstelltaste, Best.-Nr. 77 0217 00...*)

Ruftaste (rot) zum Auslösen von WC-Rufen. Die LED (rot) leuchtet schwach zum Finden der Taste im Dunkeln (Findelicht). Die LED leuchtet hell, sobald ein WC-Ruf ausgelöst wird (Beruhigungslicht).

Abstelltaste (grau) zum Abstellen von WC-Rufen und WC-Notrufen. Die LED (gelb) leuchtet, wenn ein WC-Ruf oder WC-Notruf ausgelöst wurde, der mit dieser Taste abgestellt werden kann (Erinnerungslicht).

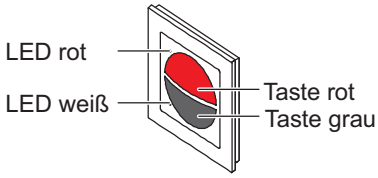
Funktion „Rufton“ aktivierbar, in der Werkseinstellung jedoch inaktiv; Details siehe Seite 4.



Ruftaster mit Privattaste, Best.-Nr. 77 0218 00...*)

Ruftaste (rot) zum Auslösen von Rufen. Die LED (rot) leuchtet schwach zum Finden der Taste im Dunkeln (Findelicht). Die LED leuchtet hell, sobald ein Ruf ausgelöst wird (Beruhigungslicht).

Privattaste (grau) zum Ein- und Ausschalten der Mithörsperre, wenn die Anwesenheit im Raum eingeschaltet ist. Die LED (weiß) leuchtet, wenn die Mithörsperre mit der Privattaste eingeschaltet wurde.

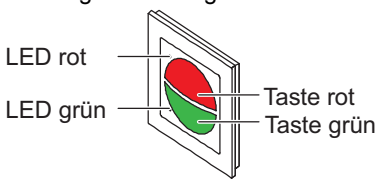


Anwesenheits-Kombination mit Rufton, 77 0219 00...*)

Ruftaste (rot) zum Auslösen von Rufen. Die LED (rot) leuchtet schwach zum Finden der Taste im Dunkeln (Findelicht). Die LED leuchtet hell, sobald ein Ruf ausgelöst wird (Beruhigungslicht).

Anwesenheitstaste (grün) zum Ein- und Ausschalten der Anwesenheit für Personalgruppe 1. Die LED (grün) leuchtet, wenn die Anwesenheit 1 eingeschaltet ist (Erinnerungslicht).

Funktion „Rufton“ aktiv: Der integrierter Tongeber signalisiert nachgesendete Rufe, wenn die Anwesenheit im Raum eingeschaltet ist. Der Tongeber kündigt außerdem Durchsagen an.

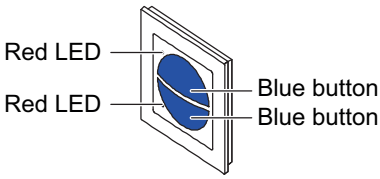


EN - Installation Instructions

Cardiac alarm switch, order no. 77 0214 00...*)

Two alarm buttons (blue) for raising cardiac alarms, if staff presence is switched on in the room. When the alarm switch is active, the LEDs (red) are on with a weak light for finding the buttons in the dark (night location light). The LEDs are on with a bright light, when an alarm was raised (reassurance light).

Optional setting: Cardiac alarms can also be raised, if no staff presence is switched on in the room.

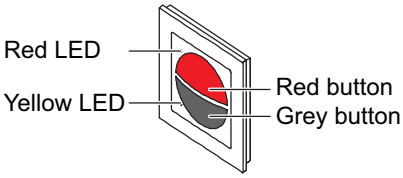


Call switch/WC with cancel switch, 77 0217 00...*)

Call button (red) for raising WC calls. The LED (red) is on with a weak light for finding the button in the dark (night location light). The LED is on with a bright light, when a WC call was raised (reassurance light).

Cancel button (grey) for cancelling WC calls and WC emergency calls. The LED (yellow) is on, when a WC call or a WC emergency is raised that can be cancelled with this button (reminder light).

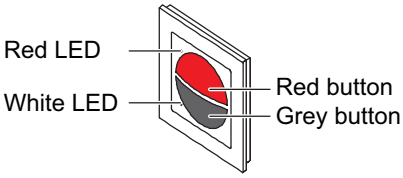
“Call tone” function available, but disabled in the factory setting; for details refer to page 4.



Call switch with privacy switch, 77 0218 00...*)

Call button (red) for raising calls. The LED (red) is on with a weak light for finding the button in the dark (night location light). The LED is on with a bright light, when a call was raised (reassurance light).

Privacy button (grey) for switching on and off the privacy in the room, if staff presence is switched on in the room. The LED (white) is on, if the privacy was switched on with the privacy button.

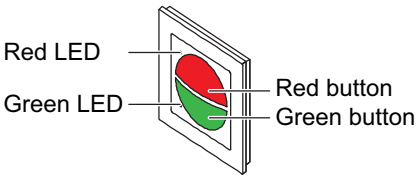


Staff presence combination with call tone, 77 0219 00...*)

Call button (red) for raising calls. The LED (red) is on with a weak light for finding the button in the dark (night location light). The LED is on with a bright light, when a call was raised (reassurance light).

Presence button (green) for switching on and off the staff presence of staff group 1. The LED (green) is on, when presence 1 is switched on (reminder light).

“Call tone” function enabled: The integrated beeper signals forwarded calls, if staff presence is switched on in the room. The beeper also attracts attention for announcements.



DE - Installationsanleitung

A Anschlussklemme anschließen

Die 3-polige Anschlussklemme [4] an den Zimmerbus RAN (ohne Sprechen) anschließen, wie in Abb. **A** gezeigt.

Gefahr von Funktionsstörungen in der Rufanlage!

- Der Kabelschirm und der Schirmdraht des Zimmerbusses RAN (ohne Sprechen) werden nicht angeschlossen und müssen in der Einbaudose bis zum Kabelmantel entfernt werden.
- Die unbenutzten Adern dürfen nicht durchverbunden werden.

B Montage

Wandmontage auf 1-teilige Einbaudose (siehe Abb. **B**):

1. Den Tragring [7] mit den Schrauben der Einbaudose [5] auf der Einbaudose [8] festschrauben. Die Aussparungen [6] für die Rasthaken [2] des Tastermoduls [1] müssen sich oben und unten befinden.
2. Die angeschlossene Anschlussklemme [4] durch den Tragring [7] aus der Einbaudose [8] herausziehen.
3. Das Tastermodul [1] in den Rahmen [3] einlegen. Die LEDs des Tastermoduls [1] müssen sich links befinden.
4. Die angeschlossene Anschlussklemme [4] in die Buchse auf der Rückseite des Tastermoduls [1] stecken.
5. Das Tastermodul [1] mit dem Rahmen [3] auf den Tragring [7] aufstecken, bis es spürbar einrastet.

Demontage

1. Das Tastermodul [1] zusammen mit dem Rahmen [3] vom Tragring [7] abziehen.
2. Die Anschlussklemme [4] von dem Tastermodul [1] abziehen.
3. Die Schrauben [5] am Tragring [7] lösen.
4. Den Tragring [7] abnehmen.

EN - Installation Instructions

A Mounting the pattress

Connect the 3-pole connector [4] to the room bus RAN (without speech) according to Fig. **A**.

Risk of malfunctions in the nurse call system!

- The cable shield and the shield wire of the RAN room bus (without speech) are not connected and must be removed in the back box up to the cable sheath.
- The unused wires must not be interconnected.

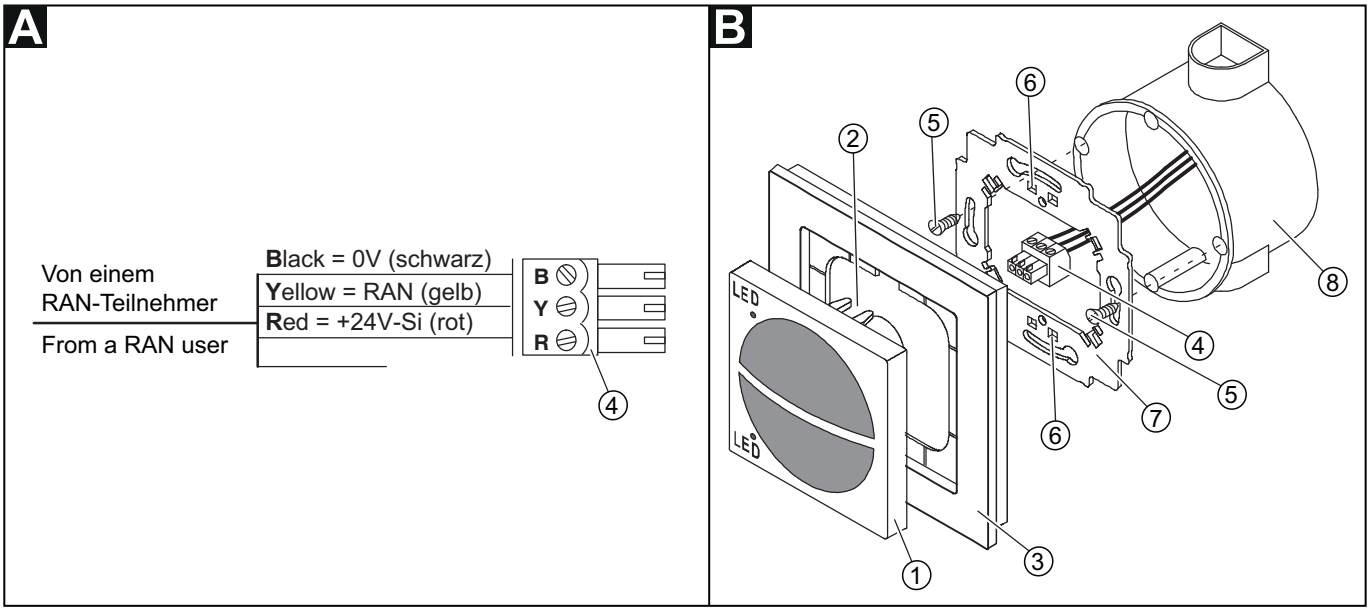
B Mounting

Wall mounting on 1-gang back box (see Fig. **B**):

1. Screw the support ring [7] to the back box [8] with the back box screws [5]. The openings [6] in the support ring [7] for the locking hooks [2] of the switch module [1] must be located on the top and on the bottom.
2. Lead the connected connector [4] through the support ring [7] out of the back box [8].
3. Place the switch module [1] in the frame [3]. The LEDs of the switch module [1] must be located on the left side.
4. Plug the connected connector [4] to the socket on the rear side of the switch module [1].
5. Press the switch module [1] together with the frame [3] onto the support ring [7] until it engages.

Dismantling

1. Lever the switch module [1] together with the frame [3] off the support ring [7].
2. Remove the connector [4] from the switch module [1].
3. Undo the screws [5] of the support ring [7].
4. Remove the support ring [7].



1 - Tastermodul
2 - Rasthaken
3 - Rahmen
4 - * Anschlussklemme, 3-polig (70 0807 00)
5 - * Schrauben der Einbaudose
6 - Aussparungen für die Rasthaken
7 - Tragring
8 - * Einbaudose, 1-teilig (Mauerwerk: 17 0100 00, Hohlwand: 17 5100 00)

* Nicht im Lieferumfang des Tasters enthalten.

1 - Switch module
2 - Locking hooks
3 - Frame
4 - * Connector, 3-pole (70 0807 00)
5 - * Back box screws
6 - Openings for the locking hooks
7 - Support ring
8 - * Back box, 1-gang (solid wall: 17010000, partition wall: 17510000)

* Not included with switch delivery.

DE - Installationsanleitung

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Funktion „Rufton“ aktivieren

Bei folgenden Tastern ist die Funktion „Rufton“ verfügbar:

- Anwesenheitstaster (77 0212 00...)
- Abstelltaster/WC (77 0213 00...)
- Ruftaster/WC mit Abstelltaste (77 0217 00...)
- Anwesenheits-Kombination mit Rufton (77 0219 00...)

Funktion „Rufton“ aktiv: Der integrierter Tongeber signalisiert nachgesendete Rufe, wenn die Anwesenheit im Raum eingeschaltet ist. Der Tongeber kündigt außerdem Durchsagen an.

Diese Funktion ist nur in der Werkseinstellung der Anwesenheitskombination mit Rufton aktiv. Bei den anderen Tastern ist er inaktiv.

Warnung! In Räumen mit eingeschalteter Anwesenheit müssen die Rufe der anderen Räume durch einen Rufton signalisiert werden. Wenn das Raumterminal keinen Rufton ausgibt, wie z.B. das ControlTerminal, muss ein Taster, z.B. die Anwesenheits-Kombination mit Rufton, den Rufton ausgeben.

So aktivieren Sie die Funktion „Rufton“ eines Tasters

Sie müssen innerhalb von 10 Sekunden nach Einschalten der 24-V-Stromversorgung mit folgendem Einstellvorgang beginnen. (Alternativ können Sie die Anschlussklemme kurz abziehen und dann wieder einstecken.)

1. Eine Taste des Tasters ca. 10 Sekunden gedrückt halten, bis die obere LED gelb leuchtet. (Abfolge: Nach ca. 5 Sekunden gibt der Taster einen Signalton aus und die obere LED leuchtet pink auf. Nach weiteren 5 Sekunden gibt der Taster erneut einen Signalton aus und leuchtet gelb. Jetzt lassen Sie los.)

Die obere LED zeigt die aktuelle Einstellung an:

- Rufton inaktiv = Obere LED blinkt 1-mal rot.
- Rufton aktiv = Obere LED blinkt 1-mal grün.

2. Durch wiederholtes Drücken einer Taste wechselt die Einstellung zwischen Grün (für „Rufton aktiv“) und Rot (für „Rufton inaktiv“). Drücken Sie die Taste so oft, bis die gewünschte Einstellung vorliegt.
3. Um die Einstellung zu speichern, eine Taste ca. 5 Sekunden gedrückt halten, bis der Taster einen Signalton ausgibt.

Die neue Einstellung wird gespeichert. Die obere LED zeigt die gespeicherte Einstellung an.

Hinweis! Wenn Sie innerhalb von 30 Sekunden keine Taste drücken, wird die neue Einstellung nicht gespeichert.

Die optionale Einstellung aktivieren

Bei folgenden Tastern können Sie statt der Werkseinstellung die optionale Einstellung aktivieren, die bei der Beschreibung des Tasters genannt wurde:

- Ruftaster (77 0211 00...)
- Ruftaster/WC (77 0211 01...)
- Alarmtaster (77 0214 00...)

Auf der nächsten Seite ist beschrieben, wie Sie die optionale Einstellung aktivieren.

EN - Installation Instructions

NOTE! The complete installation of the system is described in the Technical Manual.

Enabling the “Call tone” function

The „call tone” function is available for the following switches:

- Staff presence switch (77 0212 00...)
- Cancel switch/WC (77 0213 00...)
- Call switch/WC with cancel switch (77 0217 00...)
- Staff presence combination with call tone (77 0219 00...)

“Call tone” functioin enabled: The integrated beeper signals forwarded calls, if staff presence is switched on in the room. The beeper also attracts attention for announcements.

This function is only enabled in the factory setting of the staff presence combination with call tone. For all other switches it is disabled.

CAUTION! Calls from other rooms must be signalled with a call forwarding tone in rooms with presence activated. If the room terminal is not able to sound call forwarding tones (e.g. ControlTerminal) a switch must sound the call forwarding tones (e.g. staff presence combination with call tone).

This is how you enable the “call tone” function

Within the first 10 seconds after the power supply is switched on, you have to start with the following procedure. (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged.)

1. Press and hold one button of the switch for approx. 10 seconds until the upper LED lights up yellow. (Sequence: After approx. 5 seconds the switch emits a beep and the upper LED lights up pink. After a further 5 seconds the switch emits a second beep and the upper LED lights up yellow. Now release the button.)

The upper LED signals the current setting:

- Call tone disabled = Upper LED flashes once in red.
- Call tone enabled = Upper LED flashes once in green.

2. By pressing one button repeatedly the setting switches between Green (for “Call tone enabled”) and Red (for “Call tone disabled”). Press the button until the desired setting.
3. To save the setting press and hold one button for approx. 5 seconds until the switch emits a beep.

The new setting is saved. The upper LED signals the saved setting.

NOTE! If you do not press a button within 30 seconds, the new setting is not saved.

Enabling the optional setting

For the following switches you can enable the optional setting instead of the factory setting, refer to the switch description:

- Call switch (77 0211 00...)
- Call switch/WC (77 0211 01...)
- Cardiac alarm switch (77 0214 00...)

On the next page is described, how you enable the optional setting.

DE - Installationsanleitung

So aktivieren Sie die optionale Einstellung

Sie müssen innerhalb von 10 Sekunden nach Einschalten der 24-V-Stromversorgung mit folgendem Einstellvorgang beginnen. (Alternativ können Sie die Anschlussklemme kurz abziehen und dann wieder einstecken.)

1. Eine Taste des Tasters ca. 10 Sekunden gedrückt halten, bis die obere LED weiß leuchtet. (Abfolge: Nach ca. 5 Sekunden gibt der Taster einen Signalton aus und die obere LED leuchtet pink auf. Nach weiteren 5 Sekunden gibt der Taster erneut einen Signalton aus und leuchtet weiß. Jetzt lassen Sie los.)

Die obere LED zeigt die aktuelle Einstellung an:

- Werkseinstellung = Obere LED blinkt 1-mal rot.
- Optionale Einstellung = Obere LED blinkt 1-mal grün.

2. Durch wiederholtes Drücken einer Taste wechselt die Einstellung zwischen Grün (für optionale Einstellung) und Rot (für Werkseinstellung). Drücken Sie die Taste so oft, bis die gewünschte Einstellung vorliegt.
3. Um die Einstellung zu speichern, eine Taste ca. 5 Sekunden gedrückt halten, bis der Taster einen Signalton ausgibt.

Die neue Einstellung wird gespeichert. Die obere LED zeigt die gespeicherte Einstellung an.

Hinweis! Wenn Sie innerhalb von 30 Sekunden keine Taste drücken, wird die neue Einstellung nicht gespeichert.

EN - Installation Instructions

This is how you enable the optional setting

Within the first 10 seconds after the power supply is switched on, you have to start with the following procedure. (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged.)

1. Press and hold one button of the switch for approx. 10 seconds until the upper LED lights up white. (Sequence: After approx. 5 seconds the switch emits a beep and the upper LED lights up pink. After a further 5 seconds the switch emits a second beep and the upper LED lights up white. Now release the button.)

The upper LED signals the current setting:

- Factory setting = Upper LED flashes once in red.
- Optional setting = Upper LED flashes once in green.

2. By pressing one button repeatedly the setting switches between Green (for optional setting) and Red (for factory setting). Press the button until the desired setting.
3. To save the setting press and hold one button for approx. 5 seconds until the switch emits a beep.

The new setting is saved. The upper LED signals the saved setting.

NOTE! If you do not press a button within 30 seconds, the new setting is not saved.

Kanalnummer (0 – 7) einstellen

Die Taster können zur Bildung von Funktionseinheiten verschiedenen Kanälen zugeordnet werden. Ob Kanalnummern vorgesehen sind, entnehmen Sie Ihrem Installationsplan. Werkseinstellung: Kanal 0.

Sie müssen innerhalb von 10 Sekunden nach Einschalten der 24-V-Stromversorgung mit folgendem Einstellvorgang beginnen. (Alternativ können Sie die Anschlussklemme kurz abziehen und dann wieder einstecken.)

1. Eine Taste des Tasters ca. 5 Sekunden gedrückt halten, bis der Taster einen Signalton ausgibt und die obere LED pink aufleuchtet.

Die obere LED zeigt die aktuelle Einstellung an:

- Kanal 0 = Obere LED blinkt 1-mal rot (Werkseinstellung).
- Kanal 1 = Obere LED blinkt 1-mal grün.
- Kanal 2 = Obere LED blinkt 2-mal grün.
- usw. ...
- Kanal 7 = Obere LED blinkt 7-mal grün.

2. Die in Ihrem Installationsplan vorgegebene Kanalnummer wie folgt einstellen:

- Kanal 0 = Keine Taste drücken.
- Kanal 1 = Eine Taste 1-mal drücken.
- Kanal 2 = Eine Taste 2-mal drücken.
- usw. ...
- Kanal 7 = Eine Taste 7-mal drücken.

3. Um die Einstellung zu speichern, die eine Taste gedrückt halten, bis der Taster einen Signalton ausgibt.

Die neue Einstellung wird gespeichert. Die obere LED zeigt die gespeicherte Einstellung an.

Hinweis! Wenn Sie innerhalb von 30 Sekunden keine Taste drücken, wird die neue Einstellung nicht gespeichert.

Setting a channel number (0 – 7)

If functional units are requested, the switches have to be assigned to different channels. Refer to your installation plan to find out, whether channel numbers have to be assigned. Factory set to channel 0.

Within the first 10 seconds after the power supply is switched on, you have to start with the following procedure. (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged.)

1. Press and hold one button of the switch for approx. 5 seconds until the switch emits a beep and the upper LED lights up pink.

The upper LED signals the current setting:

- Channel 0 = Upper LED flashes once in red (factory-set).
- Channel 1 = Upper LED flashes once in green.
- Channel 2 = Upper LED flashes twice in green.
- and so on ...
- Channel 7 = Upper LED flashes seven times in green.

2. Set the channel number predefined in your installation plan as follows:

- Channel 0 = Do not press a button.
- Channel 1 = Press one button once.
- Channel 2 = Press one button twice.
- and so on ...
- Channel 7 = Press one button seven times.

3. To save the setting press and hold one button of the switch until the switch emits a beep.

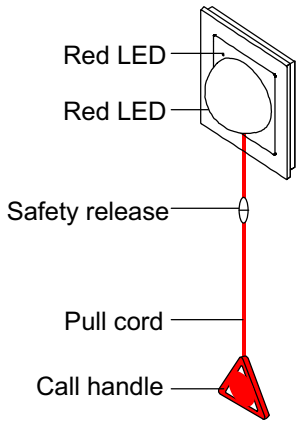
The new setting is saved. The upper LED signals the saved setting.

NOTE! If you do not press a button within 30 seconds, the new setting is not saved.

Pull cord call switches, Order No. 77 0215 0x...*), Installation Instructions — English

...*) The letter at the end of the order number represents the frame of the switch:
A = Frame dimensions (HxW): 91 x 91 mm, **F** = Frame dimensions (HxW): 80 x 80 mm
C = Frame dimensions (HxW): 107 x 107 mm. **Caution!** The frame **C** is made from real glass!

Note! The complete installation of the system is described in the Technical Manual.



Pull cord call switch, order no. 77 0215 00...*)

2,50 m pull cord and call handle for raising calls or WC calls (factory setting: calls). The LEDs (red) are on with a weak light for finding the pull cord call switch in the dark (night location light). The LEDs are on with a bright light, when a call was raised (reassurance light).
The safety release opens, if the pulling force exceeds a limit value.

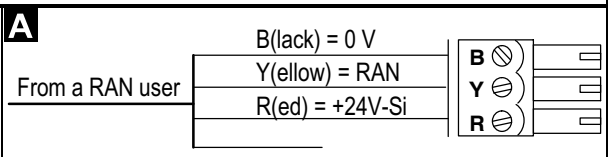
Pull cord call switch/WC, order no. 77 0215 01...*)

same as order no. 77 0215 00..., but factory setting: WC call.

Connecting the connector

Connect a 3-pole connector (order no. 70 0807 00) to the room bus RAN (without speech) according to Fig. **A**.

A



Setting a channel number (0 – 7)

If functional units are requested, the pull cord call switches have to be assigned to different channels. Refer to your installation plan to find out, whether channel numbers have to be assigned. Factory set to channel 0.
To set a channel number: Within the first ten seconds after the power supply is switched on, you have to start with the procedure described in the following (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged):

1. Pull and keep pulled the cord for approx. 5 seconds until the switch emits a beep and the upper LED lights up pink.

✓ The upper LED signals the current channel number:
- Channel 0 = Upper LED flashes once in red (factory setting).
- Channel 1 = Upper LED flashes once in green.
- Channel 2 = Upper LED flashes twice in green.
- and so on ...
- Channel 7 = Upper LED flashes seven times in green.

2. Set the channel number predefined in your installation plan as follows:
- Channel 0 = Do not pull the cord.
- Channel 1 = Pull the cord once.
- Channel 2 = Pull the cord twice.
- and so on ...
- Channel 7 = Pull the cord seven times.

3. To save the setting pull and keep pulled the pull cord until the switch emits a beep.

✓ The new setting is saved.
Note! If you do not pull the cord within 30 seconds, the new setting is not saved.

✓ The upper LED signals the set channel number:
- Channel 0 = Upper LED flashes once in red.
- Channel 1 = Upper LED flashes once in green.
- Channel 2 = Upper LED flashes twice in green.
- and so on ...
- Channel 7 = Upper LED flashes seven times in green.

CE

Setting the call type (if needed)

You can set the call type to be initiated by the switch.

- Pull cord call switch, order no. 77 0215 00...; factory setting: Call. Optional setting: WC call.
- Pull cord call switch/WC, order no. 77 0215 01...; factory setting: WC call. Optional setting: Call

To set the call type: Within the first ten seconds after the power supply is switched on, you have to start with the procedure described in the following (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged):

1. Pull and keep pulled the cord for approx. 10 seconds until the upper LED lights up white. (Sequence: After approx. 5 seconds the switch emits a beep and the upper LED lights up pink. After a further 5 seconds the switch emits a second beep and the upper LED lights up white. Now release the cord.)

✓ The upper LED signals the current setting for the call type:
Factory setting = Upper LED flashes once in red.
Optional setting = Upper LED flashes once in green.

2. Set the call type as follows:
Factory setting = Do not pull the cord.
Optional setting = Pull the cord once.
3. To save the setting pull and keep pulled the pull cord until the switch emits a beep.

✓ The new setting is saved.
Note! If you do not pull the cord within 30 seconds, the new setting is not saved.

✓ The upper LED signals the set call type:
Factory setting = Upper LED flashes once in red.
Optional setting = Upper LED flashes once in green.

Mounting

Wall mounting on 1-gang back box (see Fig. **B**):

1. Screw the support ring **7** to the back box **8*** with the back box screws **5***. The openings **6** in the support ring **7** for the locking hooks **2** of the switch module **1** must be located on the top and on the bottom, see Fig. **B**.
2. Lead the connected connector **4*** through the support ring **7** out of the back box **8***.
3. Place the switch module **1** in the frame **3**. The LEDs of the switch module **1** must be located on the left side, see Fig. **B**.
4. Plug the connected connector **4*** to the socket on the rear side of the switch module **1**.
5. Press the switch module **1** together with the frame **3** onto the support ring **7** until it engages.
6. The call handle **11** must be located between 10 and 20 cm above the floor. Therefore shorten the pull cord **10** to the desired length and re-knot it in the call handle **11**.

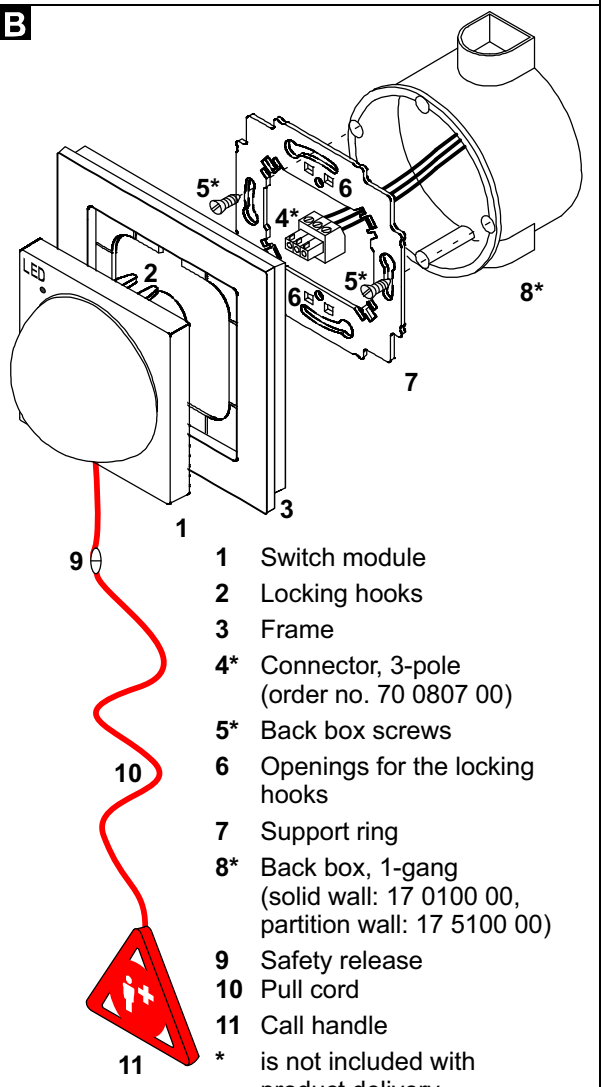
Safety release

The safety release **9** opens, if the pulling force exceeds a limit value. To re-establish the connection just plug the two parts of the safety release together.

Dismantling

1. Lever the switch module **1** together with the frame **3** off the support ring **7**.
2. Remove the connector **4*** from the switch module **1**.
3. Undo the screws **5*** of the support ring **7**.
4. Remove the support ring **7**.

B



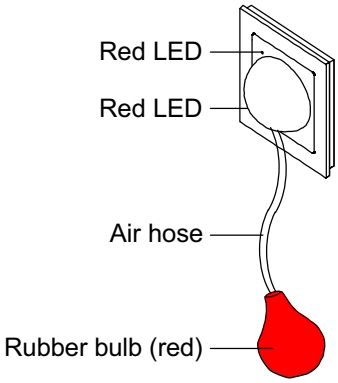
1 Switch module
2 Locking hooks
3 Frame
4* Connector, 3-pole (order no. 70 0807 00)
5* Back box screws
6 Openings for the locking hooks
7 Support ring
8* Back box, 1-gang (solid wall: 17 0100 00, partition wall: 17 5100 00)
9 Safety release
10 Pull cord
11 Call handle
* is not included with product delivery.

CE

Pneumatic call switches, Order No. 77 0216 0x...*), Installation Instructions — English

...*) The letter at the end of the order number represents the frame of the switch:
A = Frame dimensions (HxW): 91 x 91 mm, **F** = Frame dimensions (HxW): 80 x 80 mm
C = Frame dimensions (HxW): 107 x 107 mm. **Caution!** The frame **C** is made from real glass!

Note! The complete installation of the system is described in the Technical Manual.



Pneumatic call switch, order no. 77 0216 00...*)

2 m air hose and red rubber bulb for raising calls or WC calls by squeezing the bulb (factory setting: Calls). The LEDs (red) are on with a weak light for finding the pneumatic call switch in the dark (night location light). The LEDs are on with a bright light, when a call was raised (reassurance light).

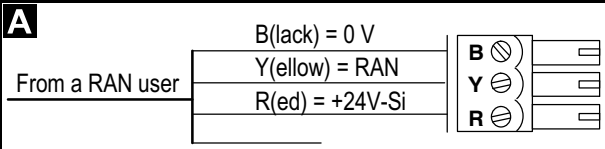
Pneumatic call switch/WC, order no. 77 0216 01...*)

same as order no. 77 0216 00..., but factory setting: WC call.

Connecting the connector

Connect a 3-pole connector (order no. 70 0807 00) to the room bus RAN (without speech) according to Fig. **A**.

A



Mounting

Wall mounting on 1-gang back box (see Fig. **B**):

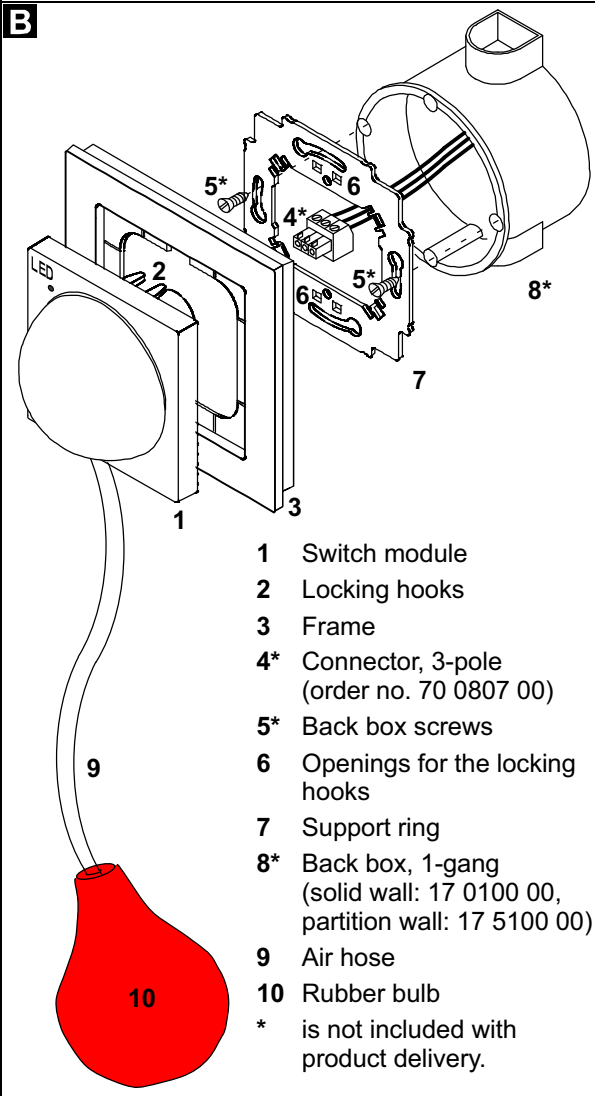
1. Screw the support ring **7** to the back box **8*** with the back box screws **5***. The openings **6** in the support ring **7** for the locking hooks **2** of the switch module **1** must be located on the top and on the bottom, see Fig. **B**.
2. Lead the connected connector **4*** through the support ring **7** out of the back box **8***.
3. Place the switch module **1** in the frame **3**. The LEDs of the switch module **1** must be located on the left side, see Fig. **B**.
4. Plug the connected connector **4*** to the socket on the rear side of the switch module **1**.
5. Press the switch module **1** together with the frame **3** onto the support ring **7** until it engages.

Warning! Call activation might be prevented. Do not kink the air hose.

Dismantling

1. Lever the switch module **1** together with the frame **3** off the support ring **7**.
2. Remove the connector **4*** from the switch module **1**.
3. Undo the screws **5*** of the support ring **7**.
4. Remove the support ring **7**.

B



1 Switch module
2 Locking hooks
3 Frame
4* Connector, 3-pole (order no. 70 0807 00)
5* Back box screws
6 Openings for the locking hooks
7 Support ring
8* Back box, 1-gang (solid wall: 17 0100 00, partition wall: 17 5100 00)
9 Air hose
10 Rubber bulb
* is not included with product delivery.

CE

Setting a channel number (0–7)

If functional units are requested, the pneumatic call switches have to be assigned to different channels. Refer to your installation plan to find out, whether channel numbers have to be assigned. Factory set to channel 0.

To set a channel number: Within the first ten seconds after the power supply is switched on, you have to start with the procedure described in the following (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged):

1. Squeeze and keep squeezed the rubber bulb for approx. 5 seconds until the switch emits a beep and the upper LED lights up pink.

✓ The upper LED signals the current channel number:

Channel 0 = Upper LED flashes once in red.
Channel 1 = Upper LED flashes once in green.
Channel 2 = Upper LED flashes twice in green.
and so on ...
Channel 7 = Upper LED flashes seven times in green.

2. Set the channel number predefined in your installation plan as follows:

Channel 0 = Do not squeeze the rubber bulb.
Channel 1 = Squeeze the rubber bulb once.
Channel 2 = Squeeze the rubber bulb twice.
and so on ...
Channel 7 = Squeeze the rubber bulb seven times.

3. To save the setting squeeze and keep squeezed the rubber bulb until the switch emits a beep.

✓ The new setting is saved.
Note! If you do not squeeze the rubber bulb within 30 seconds, the new setting is not saved.

✓ The upper LED signals the set channel number:

Channel 0 = Upper LED flashes once in red.
Channel 1 = Upper LED flashes once in green.
Channel 2 = Upper LED flashes twice in green.
and so on ...
Channel 7 = Upper LED flashes seven times in green.

Setting the call type (if needed)

You can set the call type to be initiated by the switch.

- Pneumatic call switch, order no. 77 0216 00...; factory setting: Call. Optional setting: WC call.
- Pneumatic call switch/WC, order no. 77 0216 01...; factory setting: WC call. Optional setting: Call

To set the call type: Within the first ten seconds after the power supply is switched on, you have to start with the procedure described in the following (Alternatively, the connector of the switch can be pulled off briefly and then re-plugged):

1. Squeeze and keep squeezed the rubber bulb for approx. 10 seconds until the upper LED lights up white. (Sequence: After approx. 5 seconds the switch emits a beep and the upper LED lights up pink. After a further 5 seconds the switch emits a second beep and the upper LED lights up white. Now release the rubber bulb.)

✓ The upper LED signals the current setting for the call type:

Factory setting = Upper LED flashes once in red.
Optional setting = Upper LED flashes once in green.

2. Set the call type as follows:

Factory setting = Do not squeeze the rubber bulb.
Optional setting = Squeeze the rubber bulb once.

3. To save the setting squeeze and keep squeezed the rubber bulb until the switch emits a beep.

✓ The new setting is saved.
Note! If you do not squeeze the rubber bulb within 30 seconds, the new setting is not saved.

✓ The upper LED signals the set call type:

Factory setting = Upper LED flashes once in red.
Optional setting = Upper LED flashes once in green.

CE

DE - Installationsanleitung

ComTerminal Flamenco, Best.-Nr. 77 0510 00

Kommunikationsterminal in Gegensprechtechnik. Rote Ruftaste, blaue Alarmtaste, grüne Anwesenheitstaste (AW1), gelbe Anwesenheitstaste (AW2) und 4 Funktionstasten. Mikrofon und Lautsprecher.

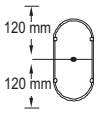
Das ComTerminal steuert und überwacht alle Zimmerfunktionen gemäß DIN VDE 0834. Anschluss an den Gruppenbus (OSYnet) und den Zimmerbus (RAN).

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Vorsicht Glas – Zerbrechlich! Die Bedienfront des ComTerminals besteht aus Glas und kann brechen.

Einbaudose setzen



Beim Setzen der Einbaudose den Platzbedarf des ComTerminals beachten. Vom Mittelpunkt der Dose muss nach oben und unten ein Platzbedarf von mindestens 120 mm vorgesehen werden.

A Montage der Terminal-Rückwand

1. Anschlussleitungen durch den Ausbruch in der Terminal-Rückwand [2] führen.
2. Terminal-Rückwand [2] mit den Schrauben [1] der Einbaudose auf der Einbaudose [5] festschrauben.

Hinweis! Wenn die Montage auf einer Einbaudose nicht möglich ist, kann das ComTerminal mit Schrauben und Dübeln an der Wand befestigt werden, wobei dieselben Bohrungen in der Terminal-Rückwand benutzt werden.

Anschließend Anschlussleitungen am Anschlussfeld der Terminal-Rückwand [2] gemäß Kapitel „Anschlüsse“ anschließen.

EN - Installation Instructions

ComTerminal Flamenco, order no. 77 0510 00

Communication terminal with two-way speech communication. Red call button, blue alarm button, green presence button (staff 1), yellow presence button (staff 2) and 4 function keys as soft keys. Microphone and loudspeakers.

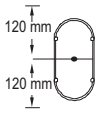
Control and monitoring of all room functions in compliance with DIN VDE 0834. Connection to the group bus (OSYnet) and the room bus (RAN).

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Glass – fragile! The operating front cover of the ComTerminal is made of glass. Handle with care!

Back box installation



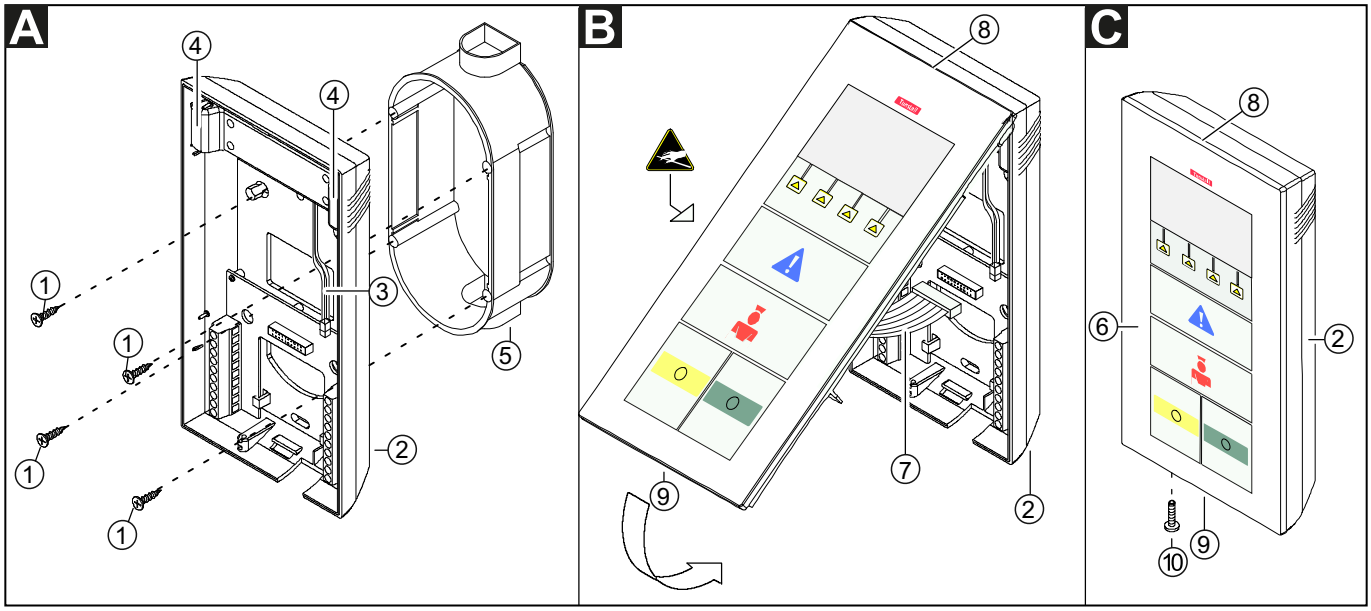
When installing the back box consider the space required for the ComTerminal. Measuring from the centre of the box, the available space must be at least 120 mm above and below.

A Mounting the pattress

1. Insert the connection cables through the outlet in the pattress [2].
2. Fix the pattress [2] using the back box screws [1] to the back box [5].

NOTE! If mounting on a back box is not possible, the ComTerminal may be fixed to the wall with dowels and screws using the same holes in the pattress.

Next, connect the connection cables to the connection field in the pattress [2] according to chapter “Connections”.



1 - * Vier Schrauben der Einbaudose
2 - Terminal-Rückwand
3 - Anschlussleitungen zu den zwei Lautsprechern
4 - Zwei Lautsprecher
5 - * Einbaudose
6 - Terminal-Frontteil
7 - Flachkabel
8 - Scharnier
9 - Rastnase
10 - Sicherungsschraube (optional)

* Nicht im Lieferumfang des ComTerminals enthalten

1 - * Four back box screws
2 - Pattress
3 - Two connections to the two loudspeakers
4 - Two loudspeakers
5 - * Back box
6 - Front panel
7 - Flat cable
8 - Hinge
9 - Catch
10 - Security screw (optional)

* Not included with ComTerminal delivery

DE - Installationsanleitung

B Montage des Terminal-Frontteils

1. Flachkabel [7] des Terminal-Frontteils [6] in die zugehörige Buchse auf der Terminal-Rückwand [2] stecken.
2. Terminal-Frontteil [6] oben auf die Terminal-Rückwand [2] aufsetzen, so dass ein Scharnier [8] entsteht.
3. Das Terminal-Frontteil mit leichten Druck (Glasbruchgefahr!) auf die Terminal-Rückwand herunterdrücken, bis die Rastnase [9] einrastet. Dabei darauf achten, dass das Flachkabel [7] nicht eingeklemmt wird.
4. Zur Sicherung kann die Sicherungsschraube [10] unten in die Bohrung unterhalb der gelben Anwesenheitstaste eingeschraubt werden.

Abschließend muss das ComTerminal gemäß den Seiten „Konfigurationsanleitung“ konfiguriert werden.

C Demontage

1. Falls eine Sicherungsschraube [10] unten am ComTerminal eingeschraubt ist, die Schraube lösen.
2. Mit dem Schraubendreher Rastnase [9] vorsichtig nach oben drücken, bis sich das Terminal-Frontteil [6] löst.
3. Das Terminal-Frontteil [6] nach unten abnehmen.
4. Stecker des Flachkabels [7] von Terminal-Rückwand [2] abziehen.
5. Terminal-Frontteil [6] geschützt ablegen. Vorsicht: Elektrostatisch gefährdete Bauteile! Vorsicht: Glas!

D Anschlüsse

Wichtige Hinweise

- Alle Leitungen für die Sprachübertragung (geschirmte Leitungen) dürfen maximal 30 mm abgemantelt werden, damit die Schirmfunktion erhalten bleibt.
- Zur Vermeidung von Kurzschlüssen den Beidraht (SCH-B) isolieren.

Anschlussvermögen	0,20 – 2,50 mm²
Schraubendreherklinge	0,6 x 3,5 mm
Abisolierlänge	6 mm

EN - Installation Instructions

B Mounting the front panel

1. Plug the flat cable [7] of the front panel [6] into the appropriate socket on the connection field in the pattress [2].
2. Place front panel [6] onto the top of the pattress [2] creating a hinge [8].
3. Press the front panel downwards onto the pattress with low pressing power (glass!) until the catch [9] engages. Make sure that the flat cable [7] is not pinched.
4. For improved security the security screw [10] can be fitted into the hole below the yellow presence button.

Finally, the ComTerminal has to be configured according to the pages “Configuration Instructions”.

C Dismantling

1. If a security screw [10] is fitted into the base of the ComTerminal, remove it.
2. Use a screwdriver to push the catch [9] upwards until the front panel [6] looses.
3. Remove the front panel [6].
4. Disconnect the flat cable [7] from the pattress [2].
5. Lay down the front panel [6] protected. Caution: Electrostatic sensitive components! Caution: Glass!

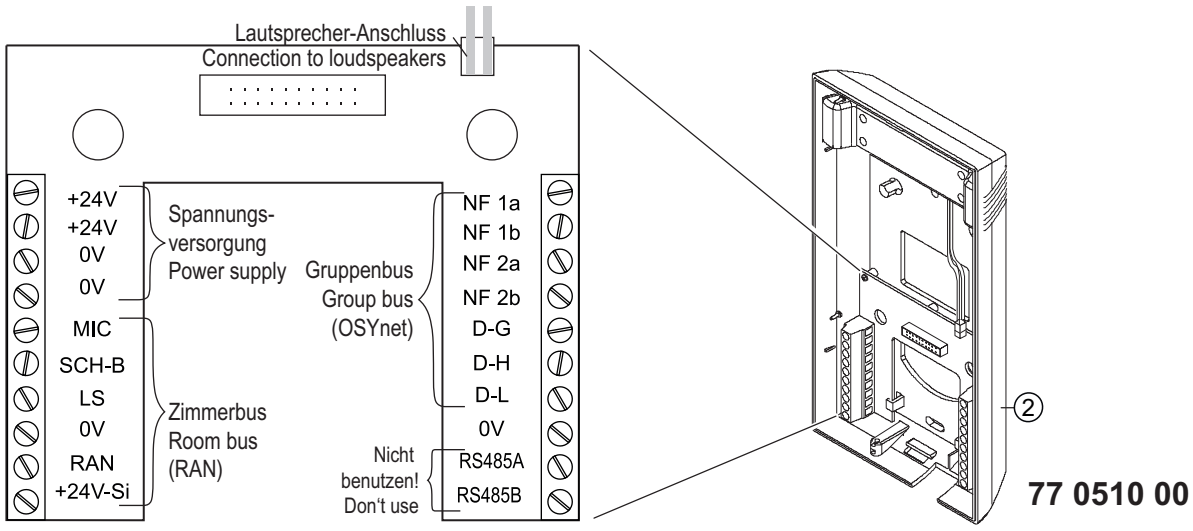
D Connections

IMPORTANT NOTES

- All cables for speech transmission (shielded cables) may be only be stripped to a maximum of 30 mm to maintain the shielding function.
- Insulate the shield wire (SCH-B) to prevent short circuiting.

Connection capacity	0.20 – 2.50 mm²
Screwdriver blade	0.6 x 3.5 mm
Insulation strip length	6 mm

D



DE - Anschlüsse

E Anschlussplan

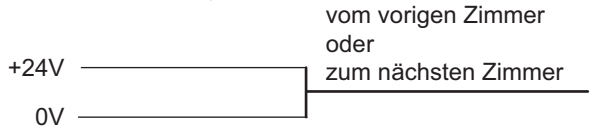
Hinweise auf der vorigen Seite beachten!

EN - Connections

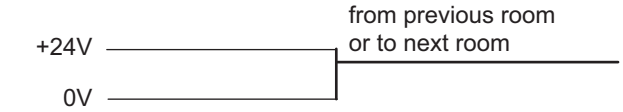
E Connection diagram

Observe the notes on the previous page!

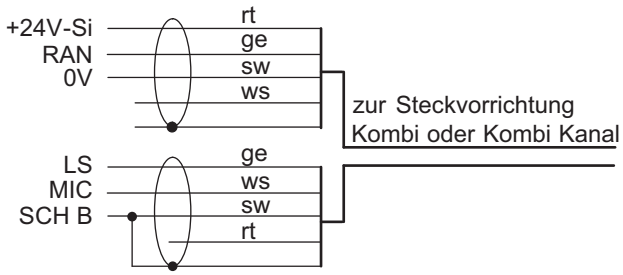
Spannungsversorgung
Kabel: NYM 2x2x2,5 mm²



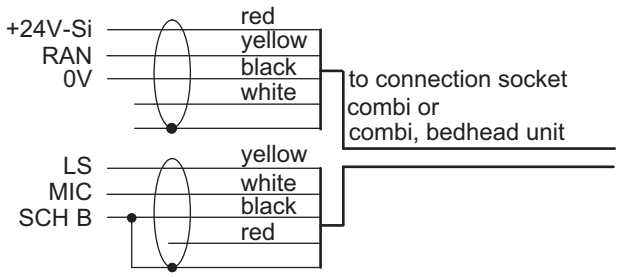
Power supply
Cable: NYM 2x2x2.5 mm²



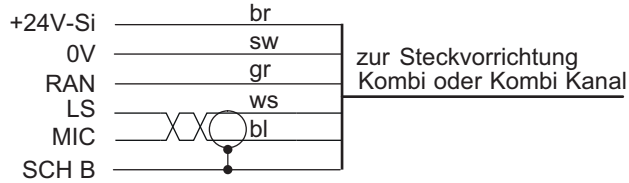
Zimmerbus (RAN) mit Sprechen
Kabel: 2 x IY(ST)Y 2x2x0,8 (max. 2 Adern pro Klemmpunkt)



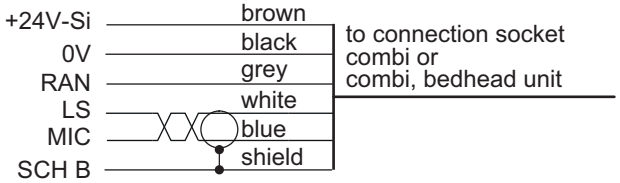
Room bus (RAN) with speech
Cable: 2 x IY(ST)Y 2x2x0.8 (max. 2 wires per connection point)



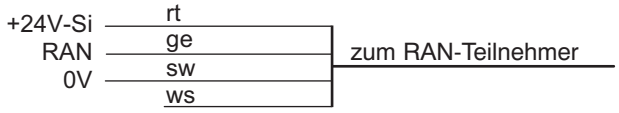
Zimmerbus (RAN) mit Sprechen
Kabel: CCS32 (max. 2 Adern pro Klemmpunkt)



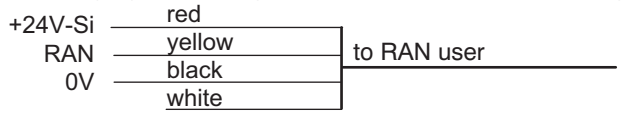
Room bus (RAN) with speech
Cable: CCS32 (max. 2 wires per connection point)



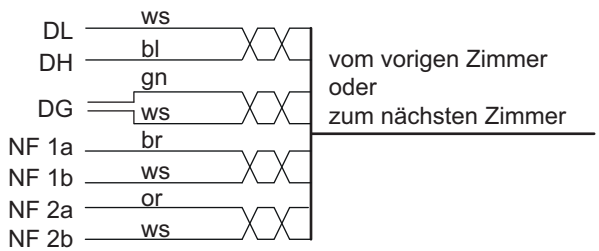
Zimmerbus (RAN) ohne Sprechen
Kabel: IY(ST)Y 2x2x0,8 (max. 4 Adern pro Klemmpunkt)



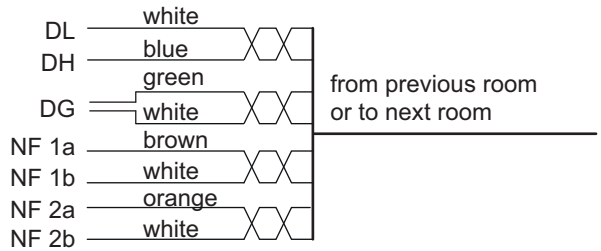
Room bus (RAN) without speech
Cable: IY(ST)Y 2x2x0.8 (max. 4 wires per connection point)



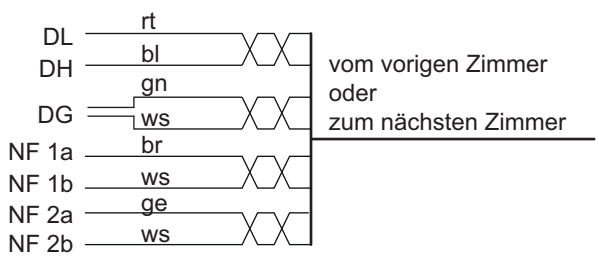
Gruppenbus (OSYnet)
Kabel: CAT7 (22 AWG) oder CAT5 (23 AWG)



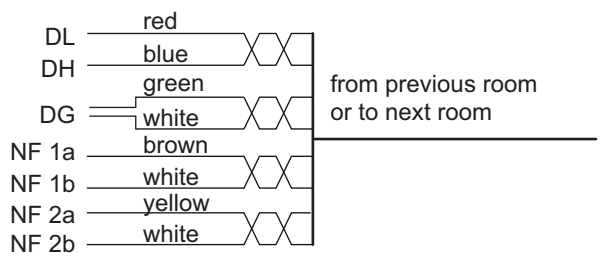
Group bus (OSYnet)
Cable: CAT7 (22 AWG) or CAT5 (23 AWG)



Gruppenbus (OSYnet)
Kabel: IY(ST)Y 4x2x0,8



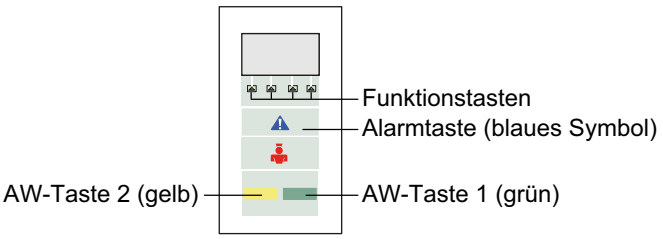
Group bus (OSYnet)
Cable: IY(ST)Y 4x2x0,8



DE - Konfigurationsanleitung

1. Konfigurationsmenü starten

- Funktionstaste ganz links und Funktionstaste ganz rechts gleichzeitig so lange (3 Sek.) gedrückt halten, bis das Konfigurationsmenü im Display erscheint.



Symbole im Konfigurationsmenü

●	Kreistaste	Markierten Menüpunkt einstellen.
▲	Pfeiltaste nach oben	In der Liste nach oben wandern.
▼	Pfeiltaste nach unten	In der Liste nach unten wandern.
⌂	Haustaste	Abbrechen, ohne zu speichern.

Menüpunkte

Sprache:	Sprache der Displaytexte einstellen.
Raumtyp:	Raumtyp einstellen, z.B. Patientenzimmer
RAN > RAN Anzahl:	Anzahl Zimmergeräte (= RAN Anzahl) einstellen.
RAN > Test RAN:	Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.
RAN > Status:	Prüfung, ob eingestellte RAN Anzahl mit Anzahl funktionsbereiter Zimmergeräte übereinstimmt.
Adresse:	Zimmer-Adresse einstellen.
Reinigungszeit:	Sekunden einstellen, die benötigt werden, um die Front des ComTerminals abzuwischen.
Kontrast:	Nur für Tunstall-Techniker.
Tastenton:	Tastenton der Tasten an dem ComTerminal ein- oder ausschalten. „Tastenton Ein“ (Werkseinstellung) wird empfohlen.
Info:	Revision der Software in dem ComTerminal anzeigen lassen.
Audio Test:	Nur für Tunstall-Techniker.
Tastenfunktion:	Funktion der Alarmtaste und Anwesenheitstasten am ComTerminal einstellen.
Reset:	Verwendung nur durch Tunstall-Techniker. (ComTerminal neu starten)

2. Zwingend erforderliche Einstellungen

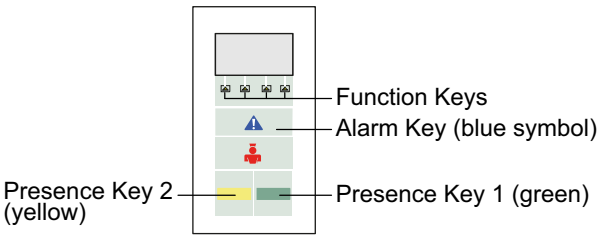
Sprache einstellen

1. Mit den Pfeiltasten „Sprache“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Sprache markieren: D = Deutsch, GB = Englisch usw.
3. Kreistaste drücken, um die Auswahl einzustellen.

EN - Configuration Instructions

1. Start configuration menu

- Press the left and right function keys simultaneously (3 sec.) until the configuration menu is shown in the display.



Symbols in the configuration menu

●	Circle key	Set the marked menu item.
▲	Upwards arrow key	Scroll upwards through the list.
▼	Downwards arrow key	Scroll downwards through the list.
⌂	Home key	Cancel, without storing.

Menu items

Language:	Selecting the user language, e.g. English.
Room type:	Selecting the room type, e.g. patient room.
RAN > RAN number:	Setting of number of room devices (= RAN number).
RAN > Test RAN:	Test if room devices are ready to operate and are correctly connected to the RAN.
RAN > Status:	Check whether the stored RAN number is equal to the number of operational room devices.
Address:	Setting of room address.
Cleaning time:	Setting the time (seconds) how long it takes to clean (wipe) the front of the ComTerminal.
Contrast:	Function use only for Tunstall technicians.
Key sound:	Switching the key sound of the ComTerminal on or off. “Key sound On” (factory setting) is recommended.
Info:	Displaying the ComTerminal's software revision.
Audio Test:	Only for Tunstall technicians.
Key Function:	Stetting the function of the Alarm key and the Presence Keys on the ComTerminal
Reset:	Function use only for Tunstall technicians. (Restart the ComTerminal).

2. Entering of necessary settings

Selecting the user language

1. Mark “Language” using the arrow keys. Then press the circle key.
2. Mark the desired language using the arrow keys: D = German; GB = English; etc.
3. Press the circle key to set the selection.

DE - Konfigurationsanleitung

Raumtyp einstellen

1. Mit den Pfeiltasten „Raumtyp“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschten Raumtyp markieren:
   - Patientenzimmer
   - Patientenzimmer mit Abstelltaste für WC-Ruf im ComTerminal
   - Dienstzimmer (Notrufe werden als Normalrufe signalisiert)
   - Kinderzimmer (Keine Taste zum Einschalten der Mithörsperre im ComTerminal, Mithörsperre AUS)
   - Anschlussterminal (Tasten und Display im ComTerminal außer Betrieb)
3. Kreistaste drücken, um die Auswahl einzustellen.

RAN-Anzahl einstellen (0 – 30)

RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die über RAN angeschlossen sind (**Kein** Birntaster).

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „RAN Anzahl“ markieren; dann Kreistaste drücken.
3. Mit den Pfeiltasten RAN-Anzahl des Zimmers markieren.
4. Kreistaste drücken, um die Auswahl einzustellen.

Zimmer-Adresse einstellen (0 – 110)

1. Mit den Pfeiltasten „Adresse“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Adresse markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

3. Optionale Einstellungen

Die übrigen Menüpunkte bieten optionale Einstellungen. Stellen Sie diese bei Bedarf ein. Beispiele:

Tastenfunktion

Achtung! Ausgeschaltete Tasten sind im Pflegebetrieb nicht verfügbar!

Alarmtaste

In der Werkseinstellung ist die Alarmtaste am ComTerminal funktionsbereit und wird durch kurzes Drücken ausgelöst.

Wenn die Gefahr besteht, dass die Alarmtaste versehentlich ausgelöst wird, kann es sinnvoll sein, eine Verzögerungszeit (2 oder 3 Sekunden) einzustellen. Das heißt, der Alarm wird erst ausgelöst, wenn die Taste für 2 bzw. 3 Sekunden gedrückt wurde.

Vorsicht! Die Einstellung einer Verzögerungszeit ist nicht konform zu der Norm DIN VDE 0834. Eine Verzögerungszeit darf nur eingestellt werden, wenn Konformität zu der DIN VDE 0834 nicht erforderlich ist.

In begründeten Ausnahmefällen ist es möglich, die Tastenfunktion der Alarmtaste auszuschalten.

Hinweis! Die Alarmtaste ist nur aktiv, wenn die Anwesenheit im Raum eingeschaltet ist.

AW-Taste 1 / AW-Taste 2

In der Werkseinstellung sind beide AW-Tasten (AW = Anwesenheit) am ComTerminal funktionsbereit.

In begründeten Ausnahmefällen ist es möglich, die Tastenfunktion von diesen Tasten auszuschalten.

EN - Configuration Instructions

Selecting the room type

1. Mark “Room type” using the arrow keys. Then press the circle key.
2. Mark the desired room type using the arrow keys:
   - Patient room
   - Patient room with cancel key for WC call at ComTerminal
   - Staff room (emergency calls are signalled as normal calls)
   - Children‘s room (no key to switch the privacy function at ComTerminal, Privacy OFF)
   - Connection terminal (keys and display at ComTerminal non-operational)
3. Press the circle key to set the selection.

Setting of RAN number (0 – 30) (Room Area Network)

RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) that are connected via RAN. (**No** pear push switch).

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “RAN number” using the arrow keys. Then press the circle key.
3. Mark the desired RAN number using the arrow keys.
4. Press the circle key to set the selection.

Setting of room address (0 – 110)

1. Mark “Address” using the arrow keys. Then press the circle key.
2. Mark the desired room address using the arrow keys.
3. Press the circle key to set the selection.

3. Entering of optional settings

The remaining menu items provide optional settings. Set these if required. Examples:

Key Function

Caution! Switched off keys are not available for nursing staff!

Alarm Key

With the factory settings the alarm key on the ComTerminal is operational and is initiated by pressing it.

If there is the risk, that the alarm button is initiated inadvertently, it might make sense to set a delay time (2 or 3 seconds). In that case the alarm will be initiated after the alarm key has been pressed and then hold for 2 or 3 seconds.

Caution! Setting a delay time does not comply with the German standard DIN VDE 0834. A delay time may only be set, where compliance with the DIN VDE 0834 is not required.

In well-founded exceptional cases you can switch of the alarm key function.

Note! Die Alarm Key is only active while the staff presence is switched on in the room.

Presence Key 1 / Presence Key 2

With the factory settings the presence keys on the ComTerminal are operational.

In well-founded exceptional cases you can switch of the key function for these keys.

DE - Konfigurationsanleitung

4. Zimmerbus RAN prüfen

Status

Prüfung, ob die eingestellte RAN-Anzahl (siehe Abschnitt „RAN-Anzahl einstellen“ in Kapitel „2. Zwingend erforderliche Einstellungen“) mit der Anzahl funktionsbereiter Zimmergeräte übereinstimmt.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Status“ markieren; dann Kreistaste drücken.

Anzeige: **OK**: Die eingestellte RAN Anzahl ist gleich der Anzahl funktionsbereiter Zimmergeräte.

Anzeige: **Error** (Fehler): Die eingestellte RAN Anzahl ist nicht gleich der Anzahl funktionsbereiter Zimmergeräte ist.

3. Zum Verlassen der Anzeige Haustaste drücken. Bei Fehler (Error) „Test RAN” durchführen.

Test RAN

Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Test starten: Mit den Pfeiltasten „Test RAN“ markieren; dann Kreistaste drücken.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.

3. Prüfen, ob die Anzahl blinkender Zimmergeräte gleich der eingestellten RAN Anzahl ist. Falls die eingestellte RAN-Anzahl falsch ist, diese nach dem RAN Test wie im Abschnitt „RAN Anzahl einstellen“ in Kapitel „2. Zwingend erforderliche Einstellungen“ beschrieben einstellen.
4. Test beenden: Haustaste drücken.

5. Konfigurationsmenü verlassen

Wenn alle Einstellungen vorgenommen sind und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen:

- Haustaste so oft drücken, bis die normale Betriebsanzeige angezeigt wird.

Hinweis! Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen.

EN - Configuration Instructions

4. Checking the room bus RAN

Status

Check whether the set RAN number (refer to section “Setting of RAN number” of chapter “2. Entering of necessary settings”) equals to the number of operational room devices.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “Status” using the arrow keys. Then press the circle key.

Display: **OK**: The set RAN number is equal to the number of operational room devices.

Display: **Error**: The set RAN number is not equal to the number of operational room devices.

3. Press the home key to end. In case of an **error** perform a “Test RAN”.

Test RAN

Test if room devices are ready to operate and if they are correctly connected to the RAN.

Check the correct setting of the RAN number.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Test start: Mark “Test RAN” using the arrow keys. Then press the circle key.

The LEDs of all connected room devices must flash. Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.

3. Compare the number of flashing room devices with the set RAN number. If the set RAN number is wrong, correct the RAN number setting after the RAN test as described in section “Setting of RAN number” of chapter “2. Entering of necessary settings”.
4. End of test: Press the home key.

5. Exit the configuration menu

When all settings are made and all tests are completed, you have to exit the configuration menu:

- Press home key several times until normal operation display appears.

NOTE! If for a period of three minutes no function key is pressed, the system will leave the configuration menu.

DE - Installationsanleitung

ZimmerTerminal Flamenco, Best.-Nr. 77 0520 00

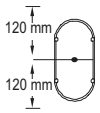
Terminal zum Einsatz in Patientenzimmern, Dienstzimmern und Funktionsräumen, ohne Sprechkommunikation. Rote Ruftaste, blaue Alarmtaste, grüne Anwesenheitstaste (AW1), gelbe Anwesenheitstaste (AW2) und 4 Funktionstasten.

Das ZimmerTerminal steuert und überwacht alle Zimmerfunktionen gemäß DIN VDE 0834. Anschluss an den Gruppenbus (OSYnet) und den Zimmerbus (RAN).

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Einbaudose setzen



Beim Setzen der Einbaudose den Platzbedarf des ZimmerTerminals beachten. Vom Mittelpunkt der Dose muss nach oben und unten ein Platzbedarf von mindestens 120 mm vorgesehen werden.

A Montage der Terminal-Rückwand

1. Anschlussleitungen durch den Ausbruch in der Terminal-Rückwand [2] führen.
2. Terminal-Rückwand [2] mit den Schrauben [1] der Einbaudose auf der Einbaudose [3] festschrauben.

Hinweis! Wenn die Montage auf einer Einbaudose nicht möglich ist, kann das ZimmerTerminal mit Schrauben und Dübeln an der Wand befestigt werden, wobei dieselben Bohrungen in der Terminal-Rückwand benutzt werden.

Anschließend Anschlussleitungen am Anschlussfeld der Terminal-Rückwand [2] gemäß Seite „Anschlüsse“ anschließen.

EN - Installation Instructions

RoomTerminal Flamenco, order no. 77 0520 00

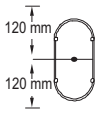
Terminal for use in patient rooms, duty rooms, and function rooms, without speech communication. Red call button, blue alarm button, green presence button (staff 1), yellow presence button (staff 2) and 4 function keys as soft keys.

Control and monitoring of all room functions in compliance with DIN VDE 0834. Connection to the group bus (OSYnet) and the room bus (RAN).

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Back box installation



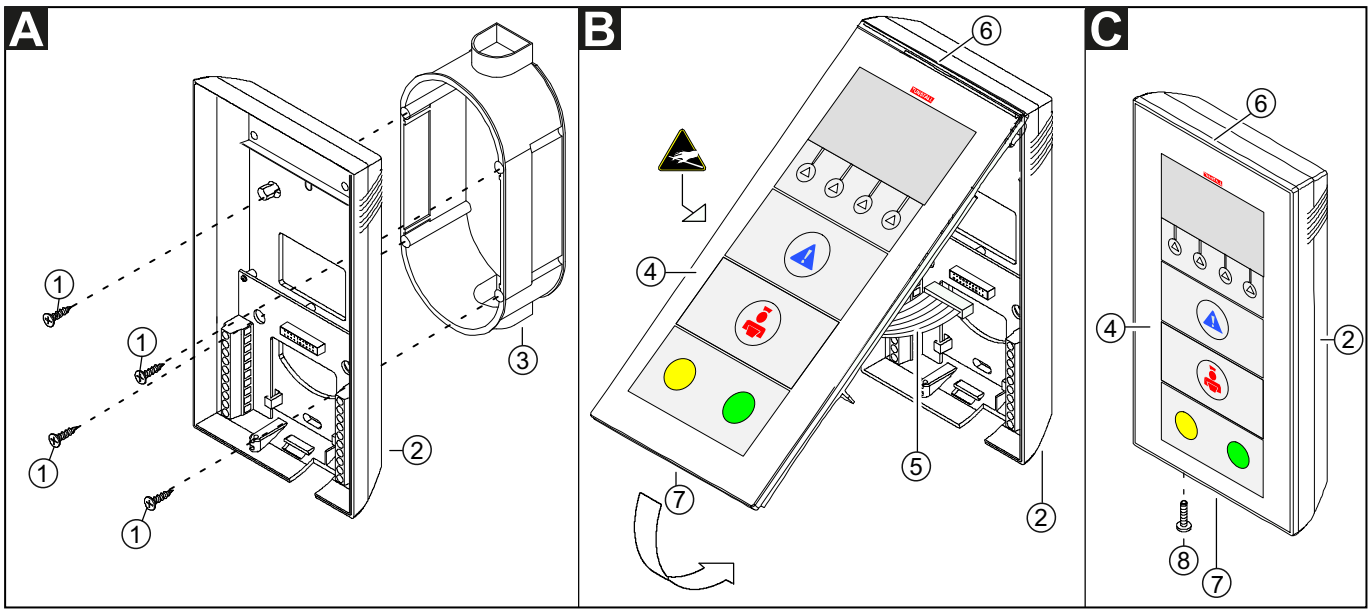
When installing the back box consider the space required for the RoomTerminal. Measuring from the centre of the box, the available space must be at least 120 mm above and below.

A Mounting the pattress

1. Insert the connection cables through the outlet in the pattress [2].
2. Fix the pattress [2] using the back box screws [1] to the back box [3].

NOTE! If mounting on a back box is not possible, the RoomTerminal may be fixed to the wall with dowels and screws using the same holes in the pattress.

Next, connect the connection cables to the connection field in the pattress [2] according to page “Connections”.



1 - * Vier Schrauben der Einbaudose
2 - Terminal-Rückwand
3 - * Einbaudose
4 - Terminal-Frontteil
5 - Flachkabel
6 - Scharnier
7 - Rastnase
8 - Sicherungsschraube (optional)

* Nicht im Lieferumfang des ZimmerTerminals enthalten

1 - * Four back box screws
2 - Pattress
3 - * Back box
4 - Front panel
5 - Flat cable
6 - Hinge
7 - Catch
8 - Security screw (optional)

* Not included with RoomTerminal delivery

DE - Installationsanleitung

B Montage des Terminal-Frontteils

1. Flachkabel [5] des Terminal-Frontteils [4] in die zugehörige Buchse auf der Terminal-Rückwand [2] stecken.
2. Terminal-Frontteil [4] oben auf die Terminal-Rückwand [2] aufsetzen, so dass ein Scharnier [6] entsteht.
3. Das Terminal-Frontteil mit leichten Druck auf die Terminal-Rückwand herunterdrücken, bis die Rastnase [7] einrastet. Dabei darauf achten, dass das Flachkabel [5] nicht eingeklemmt wird.
4. Zur Sicherung kann die Sicherungsschraube [8] unten in die Bohrung unterhalb der gelben Anwesenheitstaste eingeschraubt werden.

Abschließend muss das ZimmerTerminal gemäß den Seiten „Konfigurationsanleitung“ konfiguriert werden.

C Demontage

1. Falls eine Sicherungsschraube [8] unten am ZimmerTerminal eingeschraubt ist, die Schraube lösen.
2. Mit dem Schraubendreher Rastnase [7] vorsichtig nach oben drücken, bis sich das Terminal-Frontteil [4] löst.
3. Das Terminal-Frontteil [4] nach unten abnehmen.
4. Stecker des Flachkabels [5] von Terminal-Rückwand [2] abziehen.
5. Terminal-Frontteil [4] geschützt ablegen.
   Vorsicht: Elektrostatisch gefährdete Bauteile!

D Anschlüsse

EN - Installation Instructions

B Mounting the front panel

1. Plug the flat cable [5] of the front panel [4] into the appropriate socket on the connection field in the pattress [2].
2. Place front panel [4] onto the top of the pattress [2] creating a hinge [6].
3. Press the front panel downwards onto the pattress with low pressing power until the catch [7] engages. Make sure that the flat cable [5] is not pinched.
4. For improved security the security screw [8] can be fitted into the hole below the yellow presence button.

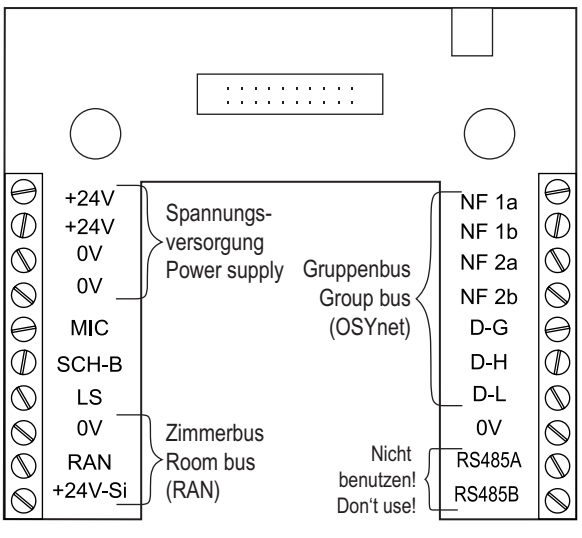
Finally, the RoomTerminal has to be configured according to the pages “Configuration Instructions”.

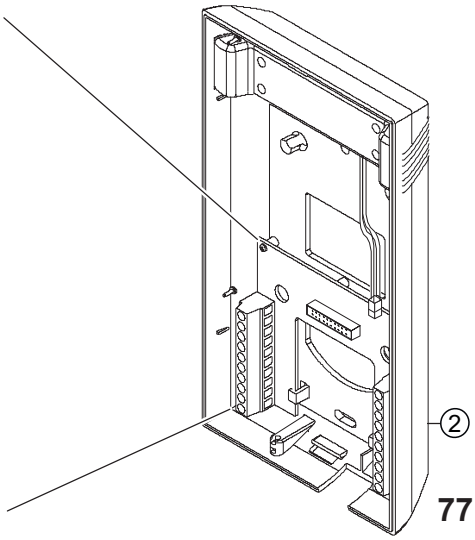
C Dismantling

1. If a security screw [8] is fitted into the base of the RoomTerminal, remove it.
2. Use a screwdriver to push the catch [7] upwards until the front panel [4] looses.
3. Remove the front panel [4].
4. Disconnect the flat cable [5] from the pattress [2].
5. Lay down the front panel [4] protected.
   Caution: Electrostatic sensitive components!

D Connections

D





DE - Anschlüsse

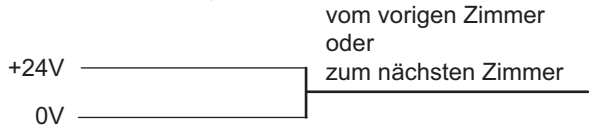
Anschlussvermögen	0,20 – 2,50 mm²
Schraubendreherklinge	0,6 x 3,5 mm
Abisolierlänge	6 mm

EN - Connections

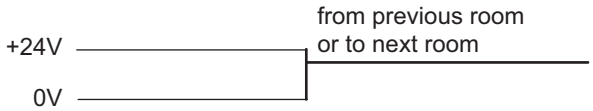
Connection capacity	0.20 – 2.50 mm²
Screwdriver blade	0.6 x 3.5 mm
Insulation strip length	6 mm

E

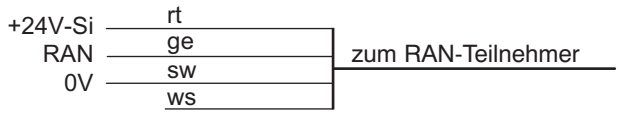
Spannungsversorgung
Kabel: NYM 2x2x2,5 mm²



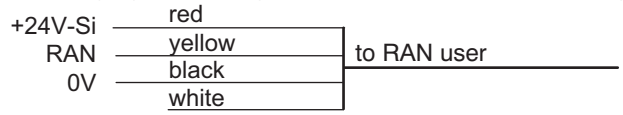
Power supply
Cable: NYM 2x2x2.5 mm²



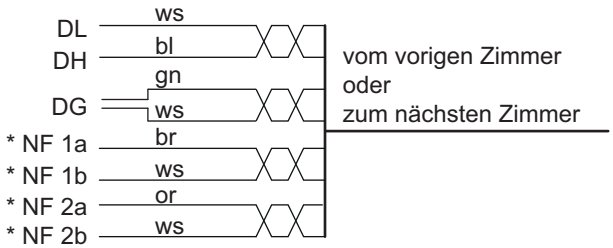
Zimmerbus (RAN) ohne Sprechen
Kabel: IY(ST)Y 2x2x0,8 (max. 4 Adern pro Klemmpunkt)



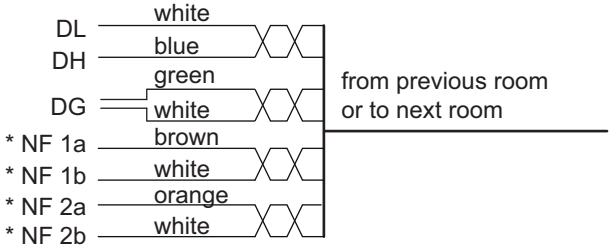
Room bus (RAN) without speech
Cable: IY(ST)Y 2x2x0.8 (max. 4 wires per connection point)



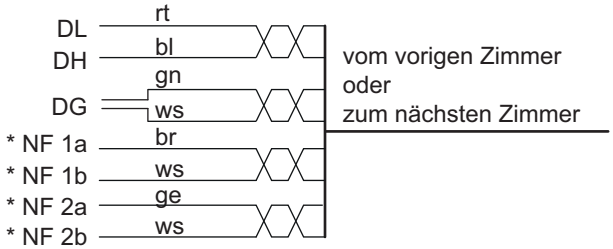
Gruppenbus (OSYnet)
Kabel: CAT7 (22 AWG) oder CAT5 (23 AWG)



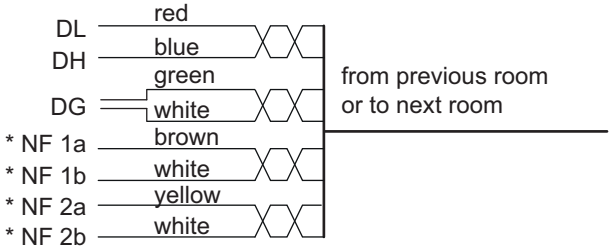
Group bus (OSYnet)
Cable: CAT7 (22 AWG) or CAT5 (23 AWG)



Gruppenbus (OSYnet)
Kabel: IY(ST)Y 4x2x0,8



Group bus (OSYnet)
Cable: IY(ST)Y 4x2x0,8



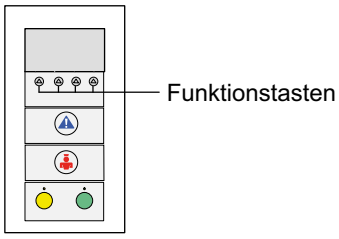
***** Hinweis! Die NF-Anschlüsse sind in folgenden Installationen nicht erforderlich: Es sind keine ComTerminals (= Terminals mit Sprachübertragung) an diesem Gruppenbus OSYnet angeschlossen UND es sollen auch in Zukunft keine ComTerminals an diesen Gruppenbus OSYnet angeschlossen werden.

***** Note! The NF connections are not required in the following installations: There are no ComTerminals (= terminals with speech) connected to this group bus OSYnet AND there shall not be connected any ComTerminals to this group bus OSYnet in the future.

DE - Konfigurationsanleitung

1. Konfigurationsmenü starten

- Funktionstaste ganz links und Funktionstaste ganz rechts gleichzeitig so lange (3 Sek.) gedrückt halten, bis das Konfigurationsmenü im Display erscheint.



Symbole im Konfigurationsmenü

●	Kreistaste	Markierten Menüpunkt einstellen.
▲	Pfeiltaste nach oben	In der Liste nach oben wandern.
▼	Pfeiltaste nach unten	In der Liste nach unten wandern.
⌂	Haustaste	Abbrechen, ohne zu speichern.

Menüpunkte

Sprache: Sprache der Displaytexte einstellen, z.B. Deutsch oder Englisch.

Raumtyp: Raumtyp einstellen, z.B. Patientenzimmer

RAN > RAN Anzahl: Anzahl Zimmergeräte (= RAN Anzahl) einstellen.

RAN > Test RAN: Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.

RAN > Status: Prüfung, ob eingestellte RAN Anzahl mit Anzahl funktionsbereiter Zimmergeräte übereinstimmt.

Adresse: Zimmer-Adresse einstellen.

Kontrast: Nur für Tunstall-Techniker.

Tastenton: Tastenton der Tasten an dem ZimmerTerminal ein oder ausschalten. „Tastenton Ein“ (Werkseinstellung) wird empfohlen.

Info: Revision der Software in dem ZimmerTerminal anzeigen lassen.

Reset: Verwendung nur durch Tunstall-Techniker. (ZimmerTerminal neu starten)

2. Zwingend erforderliche Einstellungen

Sprache einstellen

1. Mit den Pfeiltasten „Sprache“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Sprache markieren: D = Deutsch, GB = Englisch usw.
3. Kreistaste drücken, um die Auswahl einzustellen.

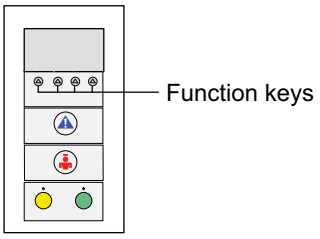
Raumtyp einstellen

1. Mit den Pfeiltasten „Raumtyp“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschten Raumtyp markieren:
   - Patientenzimmer
   - Patientenzimmer mit Abstelltaste für WC-Ruf im ZimmerTerminal
   - Dienstzimmer (Notrufe werden als Normalrufe signalisiert)
   - Anschlussterminal (Tasten und Display im ZimmerTerminal außer Betrieb).
3. Kreistaste drücken, um die Auswahl einzustellen.

EN - Configuration Instructions

1. Start configuration menu

- Press the left and right function keys simultaneously (3 sec.) until the configuration menu is shown in the display.



Symbols in the configuration menu

●	Circle key	Set the marked menu item.
▲	Upwards arrow key	Scroll upwards through the list.
▼	Downwards arrow key	Scroll downwards through the list.
⌂	Home key	Cancel, without storing.

Menu items

Language: Selecting the user language, e.g. English.

Room type: Selecting the room type, e.g. patient room.

RAN > RAN number: Setting of number of room devices (= RAN number).

RAN > Test RAN: Test if room devices are ready to operate and if they are correctly connected to the RAN.

RAN > Status: Check whether the stored RAN number is equal to the number of operational room devices.

Address: Setting of room address.

Contrast: Function use only for Tunstall technicians.

Key sound: Switching the key sound of the RoomTerminal on or off. “Key sound On” (factory setting) is recommended.

Info: Displaying the RoomTerminal's software revision.

Reset: Function use only for Tunstall technicians. (Restart the RoomTerminal).

2. Entering of necessary settings

Selecting the user language

1. Mark “Language” using the arrow keys. Then press the circle key.
2. Mark the desired language using the arrow keys: D = German; GB = English; etc.
3. Press the circle key to set the selection.

Selecting the room type

1. Mark “Room type” using the arrow keys. Then press the circle key.
2. Mark the desired room type using the arrow keys:
   - Patient room
   - Patient room with cancel key for WC call at RoomTerminal
   - Staff room (emergency calls are signalled as normal calls)
   - Connection terminal (keys and display at RoomTerminal non-operational)
3. Press the circle key to set the selection.

DE - Konfigurationsanleitung

RAN-Anzahl einstellen (0 – 30)

RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die über RAN angeschlossen sind (**Kein** Birntaster).

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „RAN Anzahl“ markieren; dann Kreistaste drücken.
3. Mit den Pfeiltasten RAN-Anzahl des Zimmers markieren.
4. Kreistaste drücken, um die Auswahl einzustellen.

Zimmer-Adresse einstellen (0 – 110)

1. Mit den Pfeiltasten „Adresse“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Adresse markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

3. Optionale Einstellungen

Die übrigen Menüpunkte bieten optionale Einstellungen. Stellen Sie diese bei Bedarf ein.

4. Zimmerbus RAN prüfen

Status

Prüfung, ob die eingestellte RAN-Anzahl (siehe Abschnitt „RAN-Anzahl einstellen“) mit der Anzahl funktionsbereiter Zimmergeräte übereinstimmt.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Status“ markieren; dann Kreistaste drücken.

Anzeige: **OK**: Die eingestellte RAN Anzahl ist gleich der Anzahl funktionsbereiter Zimmergeräte.

Anzeige: **Error** (Fehler): Die eingestellte RAN Anzahl ist nicht gleich der Anzahl funktionsbereiter Zimmergeräte ist.

3. Zum Verlassen der Anzeige Haustaste drücken. Bei Fehler (Error) „Test RAN” durchführen.

Test RAN

Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Test starten: Mit den Pfeiltasten „Test RAN“ markieren; dann Kreistaste drücken.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.

3. Prüfen, ob die Anzahl blinkender Zimmergeräte gleich der eingestellten RAN Anzahl ist. Falls die eingestellte RAN-Anzahl falsch ist, diese nach dem RAN Test wie im Abschnitt „RAN Anzahl einstellen“ beschrieben einstellen.
4. Test beenden: Haustaste drücken.

5. Konfigurationsmenü verlassen

Wenn alle Einstellungen vorgenommen sind und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen:

- Haustaste so oft drücken, bis die normale Betriebsanzeige angezeigt wird.

Hinweis! Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen.

EN - Configuration Instructions

Setting of RAN number (0 – 30) (Room Area Network)

RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) that are connected via RAN. (**No** pear push switch).

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “RAN number” using the arrow keys. Then press the circle key.
3. Mark the desired RAN number using the arrow keys.
4. Press the circle key to set the selection.

Setting of room address (0 – 110)

1. Mark “Address” using the arrow keys. Then press the circle key.
2. Mark the desired room address using the arrow keys.
3. Press the circle key to set the selection.

3. Entering of optional settings

The remaining menu items provide optional settings. Set these if required.

4. Checking the room bus RAN

Status

Check whether the set RAN number (refer to “Setting of RAN number”) equals to the number of operational room devices.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “Status” using the arrow keys. Then press the circle key.

Display: **OK**: The set RAN number is equal to the number of operational room devices.

Display: **Error**: The set RAN number is not equal to the number of operational room devices.

3. Press the home key to end. In case of an **error** perform a “Test RAN”.

Test RAN

Test if room devices are ready to operate and if they are correctly connected to the RAN.

Check the correct setting of the RAN number.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Test start: Mark “Test RAN” using the arrow keys. Then press the circle key.

The LEDs of all connected room devices must flash. Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.

3. Compare the number of flashing room devices with the set RAN number. If the set RAN number is wrong, correct the RAN number setting after the RAN test as described in section “Setting of RAN number”.
4. End of test: Press the home key.

5. Exit the configuration menu

When all settings are made and all tests are completed, you have to exit the configuration menu:

- Press home key several times until normal operation display appears.

NOTE! If for a period of three minutes no function key is pressed, the system will leave the configuration menu.

DE - Installationsanleitung

ControlTerminal Flamenco, Best.-Nr. 77 0550 00

Das ControlTerminal steuert und überwacht alle Zimmerfunktionen gemäß DIN VDE 0834. Direkter Anschluss an den Gruppenbus (OSYnet) und den Zimmerbus (RAN).

Optische Anzeige von allen Rufarten und Personalanwesenheiten sowie zusätzliche Anzeige für WC-Ruf.

ControlTerminal Flamenco, Glasdekor, Best.-Nr. 77 0555 00

Wie 77 0550 00, jedoch Glas-Dekorrahmen.

Hinweis! Vor der Montage muss das ControlTerminal mit dem ControlTerminal ConfigSet, Best.-Nr. 77 0920 00, konfiguriert werden. Die Software des ConfigSet muss die Revision **1.04** oder höher haben!

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte und die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Anschlüsse

1. Die Anschlusskabel in der Einbaudose auf geeignete Länge abmanteln.
2. Kabelschirm und Beidraht bis zum Kabelmantel entfernen. Adern abisolieren.
3. Adern gemäß Abb. **E** an den beiden Anschlussklemmen anschließen.

RAN-TEST (DIP-Schalter)

Abb. **D**: Test, ob die Zimmergeräte funktionsbereit sind und korrekt am Zimmerbus (RAN) angeschlossen sind:

1. DIP-Schalter „RAN-Test“ in Position ON (links) stellen.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. (Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.)

2. Prüfen, ob die Anzahl angeschlossener Zimmergeräte gleich der mit dem ControlTerminal ConfigSet eingestellten RAN-Anzahl ist. (Falls die eingestellte RAN-Anzahl falsch ist, müssen Sie diese mit dem ControlTerminal ConfigSet korrekt einstellen.)
3. Zum Beenden des RAN-Test, DIP-Schalter „RAN-TEST“ in Position OFF (rechts) stellen.

EN - Installation Instructions

ControlTerminal Flamenco, order no. 77 0550 00

Control and monitoring of all room functions in compliance with DIN VDE 0834. Direct connection to the group bus (OSYnet) and the room bus (RAN).

Optical signalling of all call types and staff presences as well as additional display for WC call.

ControlTerminal Flamenco, glass decor order no. 77 0555 00

Same as 77 0550 00, but decorative glass frame.

NOTE! Prior to mounting the ControlTerminal has to be configured using the ControlTerminal ConfigSet, order no. 77 0920 00. The software in the ConfigSet must have revision **1.04** or higher!

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

Connections

1. Strip the connecting cables in the back box to a suitable length.
2. Remove the cable shield and drain wire up to the cable sheath. Strip the wires.
3. Connect the wires to the two connectors according to fig. **E**.

RAN-TEST (DIP switch)

Fig. **D**: Test if all room devices are ready to operate and if they are correctly connected to the room bus (RAN):

1. Set DIP switch “RAN-Test” to ON (left).

The LEDs of all connected room devices must flash. (Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.)

2. Compare the number of connected room devices with the RAN number configured with the ControlTerminal ConfigSet. (If the configured RAN number is not equal to the number of connected room devices, you have to correct the RAN number setting with the ControlTerminal ConfigSet.)
3. To end the test, set DIP switch “RAN-TEST” back to OFF (right).

Technische Daten

Spannungsversorgung	24 V DC
Ruhestromaufnahme	42 mA
Stromaufnahme pro Leuchtfeld	30 mA
4-polige Anschlussklemme: - Anschlussvermögen - Abisolierlänge	 0,20 – 2,50 mm² 7 mm
8-polige Anschlussklemme: - Anschlussvermögen - Abisolierlänge	 0,14 – 1,50 mm² 7 mm
Abmessungen (HxBxT)	110 x 150 x 40 mm
Schutzart	IP 20
Umgebungstemperatur	+5 °C – +40 °C
Relative Luftfeuchtigkeit	0 % – 85 %

Technical data

Power supply	24 V DC
Standby current consumption	42 mA
Current consumption per light section	30 mA
4-pole connector: - Connection capacity - Insulation strip length	 0.20 – 2.50 mm² 7 mm
8-pole connector: - Connection capacity - Insulation strip length	 0.14 – 1.50 mm² 7 mm
Dimensions (HxWxD)	110 x 150 x 40 mm
Degree of protection	IP 20
Ambient temperature	+5 °C – +40 °C
Relative humidity	0 % – 85 %

DE - Installationsanleitung

Montage

Im Auslieferungszustand ist das ControlTerminal zusammengebaut und muss wie folgt auseinander gebaut werden, siehe Abb. **A**:

- Lichtkuppel [7] von oben und unten leicht zusammendrücken und dann abziehen.

Wandmontage, siehe Abb. **B**:

1. Leitungen gemäß Kapitel „Anschlüsse“ dieser Verpackungsbeilage an die Anschlussklemmen (Schraubklemmen) auf der Montageplatte [2] anschließen. Dabei zwei Einlegebrücken wie gezeigt einlegen.
2. Die vier LED-Module [6] abziehen und zur Seite legen.
3. Montageplatte [2] mit den vier Schrauben der Einbaudose [3] an der Einbaudose [1] festschrauben. Einbaurichtung beachten: Klemme für Spannungsversorgung oben.
4. Gehäuse [4] (inkl. eingebauter Leiterplatte) auf die Montageplatte [2] aufsetzen. Vorsichtig andrücken, bis Stecker und Buchsen der Anschlussklemmen fest miteinander verbunden sind.
5. Gehäuse [4] (inkl. eingebauter Leiterplatte) mit den beiden Befestigungsschrauben [5] auf der Montageplatte [2] festschrauben.
6. Die vier LED-Module gemäß Abb. **C** auf die Leiterplatte stecken.
7. Lichtkuppel mit Trenneinsatz [7] auf das Gehäuse [4] drücken, bis sie einrastet.

EN - Installation Instructions

Mounting

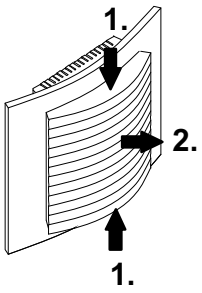
At the point of delivery the ControlTerminal is assembled and must be dismantled as follows, see fig. **A**:

- Lightly compress the light dome [7] from top and bottom. Then pull off the light dome [7].

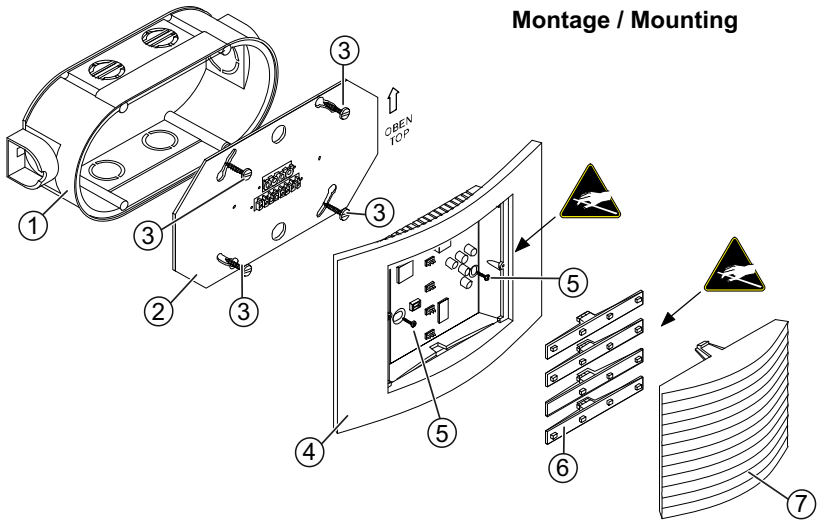
Wall mounting, see fig. **B**:

1. Connect the connection wires according to chapter “Connections” of this product leaflet to the connectors (screw clamps) on the mounting plate [2]. Thereby insert two insertion bridges as shown.
2. Unplug the four LED modules [6] and lay them aside.
3. Fit the mounting plate [2] to the back box [1] using the four back box screws [3]. For the correct mounting direction the connector for power supply must be at the top.
4. Place the casing [4] (incl. the pre-mounted PCB) onto the mounting plate [2]. Press very carefully, until plugs and sockets of the connectors are firmly connected.
5. Fit the casing [4] (incl. the pre-mounted PCB) with the two fixing screws [5] to the mounting plate [2].
6. Plug the four LED modules onto the PCB according to the fig. **C**.
7. Press the light dome with the insert module [7] onto the casing [4] until it locks in place.

A **Demontage / Dismantling**

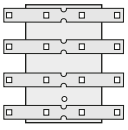


B **Montage / Mounting**



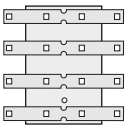
C

LED-Module



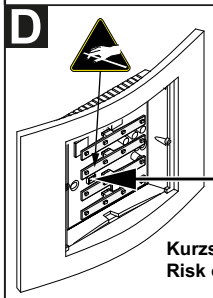
rot: Rufe
grün: Personal 1
gelb: Personal 2
weiß: WC-Ruf

LED modules



red: Calls
green: Staff 1
yellow: Staff 2
white: WC call

D **DIP-Schalter / DIP switch**



RESET: Um einen Hardware-Reset durchzuführen, den DIP-Schalter RESET für eine Sekunde auf ON und anschließend wieder auf OFF stellen.

RESET: To reset the ControlTerminal you have to set DIP switch RESET to ON for one second, then back to OFF.

RESET
RAN-TEST

Kurzschlussgefahr! Beim Einstellen des DIP-Schalters keine anderen elektronischen Bauteile berühren.
Risk of short circuit! When setting the DIP switch do not contact any other electronic components.

1 - * Einbaudose
2 - ** Montageplatte mit Anschlussklemmen
3 - * Vier Schrauben der Einbaudose
4 - Gehäuse inkl. eingebauter Leiterplatte
5 - ** Zwei Befestigungsschrauben
6 - Vier LED-Module
7 - Lichtkuppel mit Trenneinsatz

Separat bestellen:
* Einbaudose (inkl. vier Schrauben)
** Montagekit, Bestell-Nr. 77 0960 00

1 - * Back box
2 - ** Mounting plate with connectors
3 - * Four back box fixing screws
4 - Casing incl. pre-mounted PCB
5 - ** Two fixing screws
6 - Four LED modules
7 - Light dome with insert module

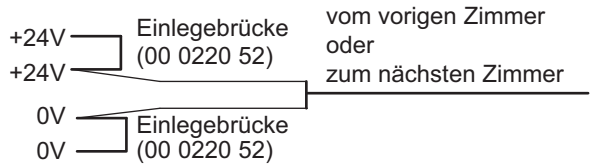
Order separately:
* Back box (incl. four screws)
** Mounting kit, order no. 77 0960 00

DE - Installationsanleitung

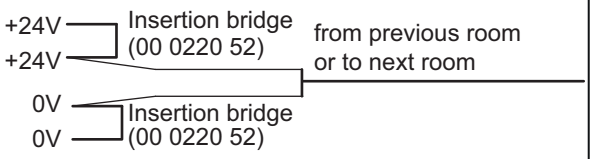
EN - Installation Instructions

E

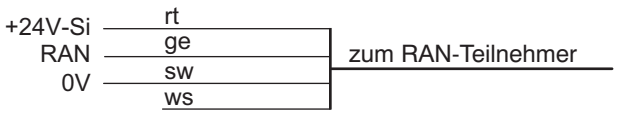
Spannungsversorgung
Kabel: NYM 2x2x2,5 mm²



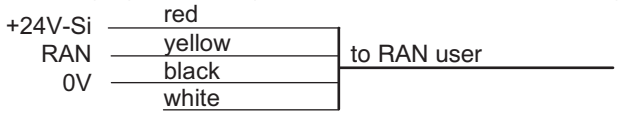
Power supply
Cable: NYM 2x2x2.5 mm²



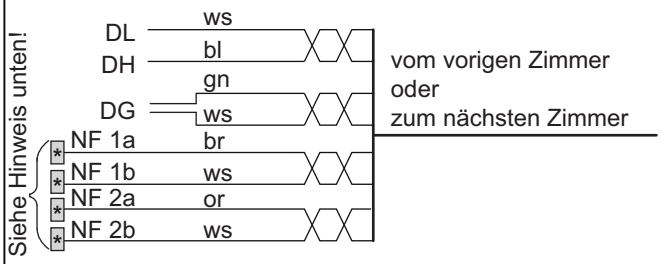
Zimmerbus (RAN) ohne Sprechen
Kabel: IY(ST)Y 2x2x0,8 (max. 4 Adern pro Klemmpunkt)



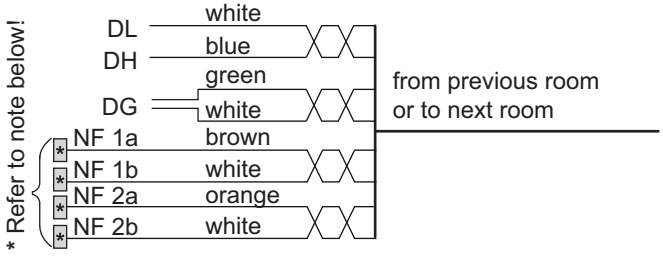
Room bus (RAN) without speech
Cable: IY(ST)Y 2x2x0.8 (max. 4 wires per connection point)



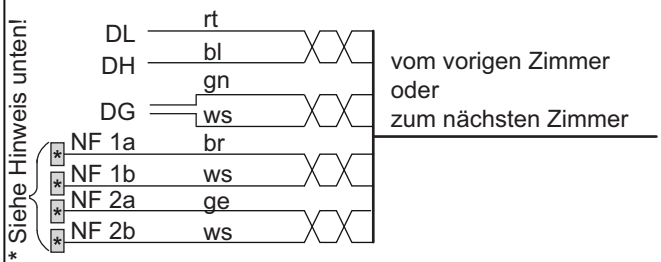
Gruppenbus (OSYnet)
Kabel: CAT7 (22 AWG) oder CAT5 (23 AWG)



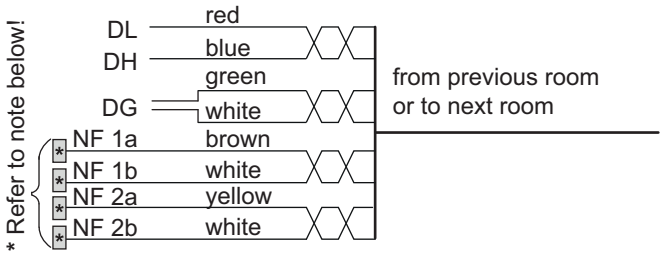
Group bus (OSYnet)
Cable: CAT7 (22 AWG) or CAT5 (23 AWG)



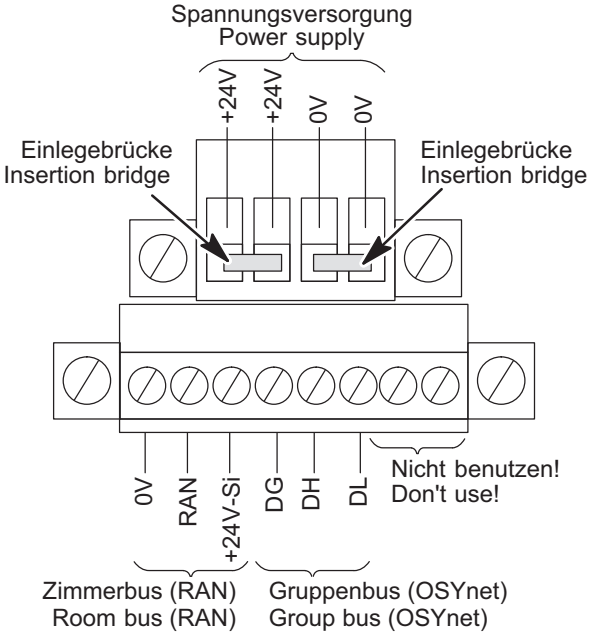
Gruppenbus (OSYnet)
Kabel: IY(ST)Y 4x2x0,8



Group bus (OSYnet)
Cable: IY(ST)Y 4x2x0,8



*** Hinweis!** Die NF-Adern sind nur dann am Gruppenbus OSYnet vorhanden, wenn an dem selben Gruppenbus auch ComTerminals (= Terminals mit Sprachübertragung) angeschlossen sind.
Diese Adern werden an dem ControlTerminal nicht angeschlossen. Sie müssen jeweils mit einer Verbindungsdosenklemme (Bestell-Nr. 00 0222 88, Leitungsdurchmesser 0,6 – 0,8 mm) durchverbunden werden.



*** NOTE!** The NF wires exist only at the group bus OSYnet, if ComTerminals (= terminals with speech) are connected to the same group bus. These wires are not connected to the ControlTerminal. Each of them has to be connected through using the push-wire connector (order no. 00 0222 88, wire diameter 0.6 – 0.8 mm).

DE - Installationsanleitung

ControlTerminal mit Türschild Flamenco, Best.-Nr. 77 0551 00

Das ControlTerminal steuert und überwacht alle Zimmerfunktionen gemäß DIN VDE 0834. Direkter Anschluss an den Gruppenbus (OSYnet) und den Zimmerbus (RAN).

Optische Anzeige von allen Rufarten und Personalanwesenheiten sowie zusätzliche Anzeige für WC-Ruf. Türschild als Beschriftungsfeld für die Raumbezeichnung.

Hinweis! Vor der Montage muss das ControlTerminal mit dem ControlTerminal ConfigSet, Best.-Nr. 77 0920 00, konfiguriert werden. Die Software des ConfigSet muss die Revision **1.04** oder höher haben!

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte und die LED-Module sind mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Anschlüsse

1. Die Anschlusskabel in der Einbaudose auf geeignete Länge abmanteln.
2. Kabelschirm und Beidraht bis zum Kabelmantel entfernen. Adern abisolieren.
3. Adern gemäß Abb. **E** an den beiden Anschlussklemmen anschließen.

RAN-TEST (DIP-Schalter)

Abb. **C**: Test, ob die Zimmergeräte funktionsbereit sind und korrekt am Zimmerbus (RAN) angeschlossen sind:

1. DIP-Schalter „RAN-Test“ in Position ON (links) stellen.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. (Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.)

2. Prüfen, ob Anzahl angeschlossener Zimmergeräte gleich der mit dem ControlTerminal ConfigSet eingestellten RAN-Anzahl ist. (Falls die eingestellte RAN-Anzahl falsch ist, müssen Sie diese mit dem ControlTerminal ConfigSet korrekt einstellen.)
3. Zum Beenden des RAN-Test, DIP-Schalter „RAN-TEST“ in Position OFF (rechts) stellen.

Technische Daten

Spannungsversorgung	24 V DC
Ruhestromaufnahme	42 mA
Stromaufnahme pro Leuchtfeld	30 mA
4-polige Anschlussklemme: - Anschlussvermögen - Abisolierlänge	 0,20 – 2,50 mm² 7 mm
8-polige Anschlussklemme: - Anschlussvermögen - Abisolierlänge	 0,14 – 1,50 mm² 7 mm
Abmessungen (HxBxT)	190 x 150 x 40 mm
Feld für das Namensschild (HxB)	70 x 92 mm
Schutzart	IP 20
Umgebungstemperatur	+5 °C – +40 °C
Relative Luftfeuchtigkeit	0 % – 85 %

EN - Installation Instructions

ControlTerminal with doorplate Flamenco, order no. 77 0551 00

Control and monitoring of all room functions in compliance with DIN VDE 0834. Direct connection to the group bus (OSYnet) and the room bus (RAN).

Optical signalling of all call types and staff presences as well as additional display for WC call. Doorplate as label field for room designation.

NOTE! Prior to mounting the ControlTerminal has to be configured using the ControlTerminal ConfigSet, order no. 77 0920 00. The software in the ConfigSet must have revision **1.04** or higher!

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board and the LED modules include electrostatic sensitive components. Avoid touching.

Connections

1. Strip the connecting cables in the back box to a suitable length.
2. Remove the cable shield and drain wire up to the cable sheath. Strip the wires.
3. Connect the wires to the two connectors according to fig. **E**.

RAN-TEST (DIP switch)

Fig. **C**: Test if all room devices are ready to operate and if they are correctly connected to the room bus (RAN):

1. Set DIP switch “RAN-Test” to ON (left).

The LEDs of all connected room devices must flash. (Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.)

2. Compare the number of connected room devices with the RAN number configured with the ControlTerminal ConfigSet. (If the configured RAN number is not equal to the number of connected room devices, you have to correct the RAN number setting with the ControlTerminal ConfigSet.)
3. To end the test, set DIP switch “RAN-TEST” back to OFF (right).

Technical data

Power supply	24 V DC
Standby current consumption	42 mA
Current consumption per light section	30 mA
4-pole connector: - Connection capacity - Insulation strip length	 0.20 – 2.50 mm² 7 mm
8-pole connector: - Connection capacity - Insulation strip length	 0.14 – 1.50 mm² 7 mm
Dimensions (HxWxD)	190 x 150 x 40 mm
Field for the label strip (HxW)	70 x 92 mm
Degree of protection	IP 20
Ambient temperature	+5 °C – +40 °C
Relative humidity	0 % – 85 %

DE - Installationsanleitung

Montage

Im Auslieferungszustand ist das ControlTerminal mit Türschild zusammengebaut und muss wie folgt auseinander gebaut werden, siehe Abb. **A**:

- Lichtkuppel [7] von oben und unten leicht zusammendrücken und dann abziehen.

Wandmontage, siehe Abb. **B**:

1. Leitungen gemäß Kapitel „Anschlüsse“ dieser Verpackungsbeilage an die Anschlussklemmen (Schraubklemmen) auf der Montageplatte [2] anschließen. Dabei zwei Einlegebrücken wie gezeigt einlegen.
2. Die vier LED-Module [6] abziehen und zur Seite legen.
3. Montageplatte [2] mit den vier Schrauben der Einbaudose [3] an der Einbaudose [1] festschrauben. Einbaurichtung beachten: Klemme für Spannungsversorgung oben.
4. Gehäuse [4] (inkl. eingebauter Leiterplatte) auf die Montageplatte [2] aufsetzen. Vorsichtig andrücken, bis Stecker und Buchsen der Anschlussklemmen fest miteinander verbunden sind.
5. Gehäuse [4] (inkl. eingebauter Leiterplatte) mit den beiden Befestigungsschrauben [5] auf der Montageplatte [2] festschrauben.
6. Die vier LED-Module gemäß Abb. **D** auf die Leiterplatte stecken.
7. Lichtkuppel mit Trenneinsatz [7] auf das Gehäuse [4] drücken, bis sie einrastet.

EN - Installation Instructions

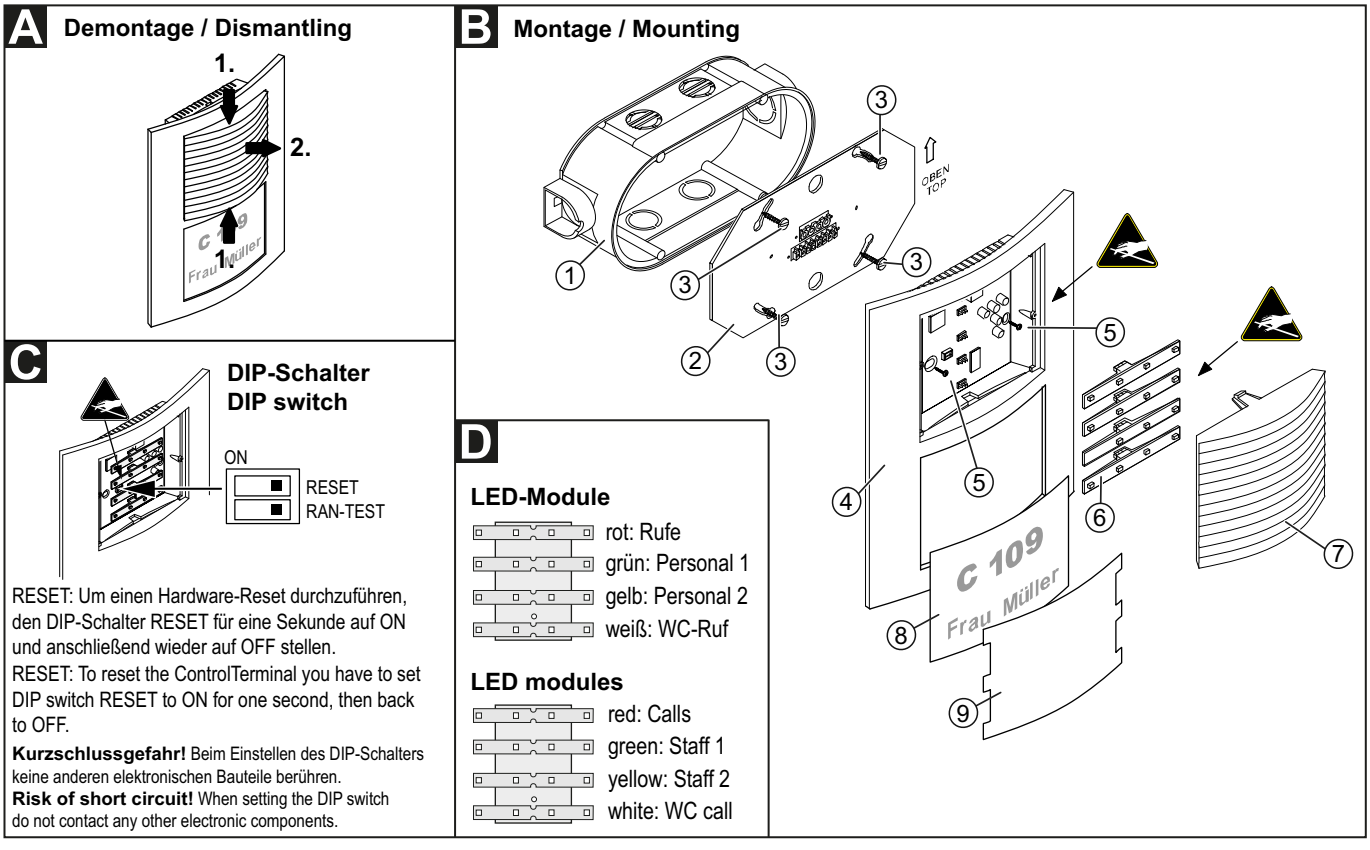
Mounting

At the point of delivery the ControlTerminal with doorplate is assembled and must be dismantled as follows, see fig. **A**:

- Lightly compress the light dome [7] from top and bottom. Then pull off the light dome [7].

Wall mounting, see fig. **B**:

1. Connect the connection wires according to chapter “Connections” of this product leaflet to the connectors (screw clamps) on the mounting plate [2]. Thereby insert two insertion bridges as shown.
2. Unplug the four LED modules [6] and lay them aside.
3. Fit the mounting plate [2] to the back box [1] using the four back box screws [3]. For the correct mounting direction the connector for power supply must be at the top.
4. Place the casing [4] (incl. the pre-mounted PCB) onto the mounting plate [2]. Press very carefully, until plugs and sockets of the connectors are firmly connected.
5. Fit the casing [4] (incl. the pre-mounted PCB) with the two fixing screws [5] to the mounting plate [2].
6. Plug the four LED modules onto the PCB according to the fig. **D**.
7. Press the light dome with the insert module [7] onto the casing [4] until it locks in place.



RESET: Um einen Hardware-Reset durchzuführen, den DIP-Schalter RESET für eine Sekunde auf ON und anschließend wieder auf OFF stellen.

RESET: To reset the ControlTerminal you have to set DIP switch RESET to ON for one second, then back to OFF.

Kurzschlussgefahr! Beim Einstellen des DIP-Schalters keine anderen elektronischen Bauteile berühren.
Risk of short circuit! When setting the DIP switch do not contact any other electronic components.

1 - * Einbaudose
2 - ** Montageplatte mit Anschlussklemmen
3 - * Vier Schrauben der Einbaudose
4 - Gehäuse inkl. eingebauter Leiterplatte
5 - ** Zwei Schrauben
6 - Vier LED-Module
7 - Lichtkuppel mit Trenneinsatz
8 - * Namensschild
9 - Schutzabdeckung

Separat bestellen:
* Einbaudose (inkl. vier Schrauben)
** Montagekit, Bestell-Nr. 77 0960 00

1 - * Back box
2 - ** Mounting plate with connectors
3 - * Four back box fixing screws
4 - Casing incl. pre-mounted PCB
5 - ** Two fixing screws
6 - Four LED modules
7 - Light dome with insert module
8 - * Label strip
9 - Protection cover

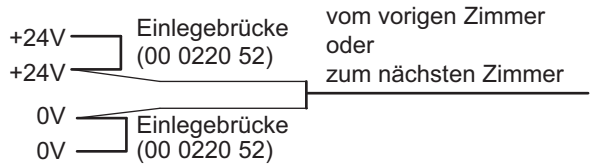
Order separately:
* Back box (incl. four screws)
** Mounting kit, order no. 77 0960 00

DE - Installationsanleitung

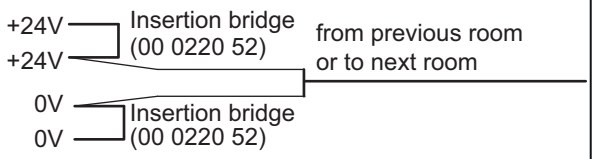
EN - Installation Instructions

E

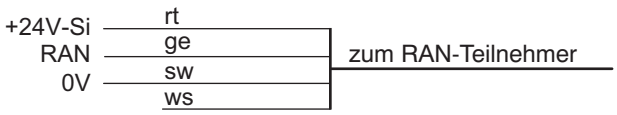
Spannungsversorgung
Kabel: NYM 2x2x2,5 mm²



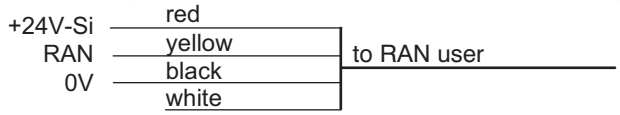
Power supply
Cable: NYM 2x2x2.5 mm²



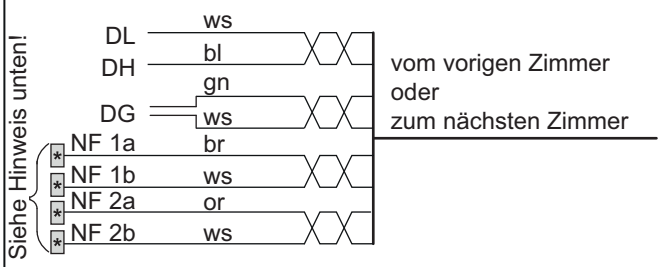
Zimmerbus (RAN) ohne Sprechen
Kabel: IY(ST)Y 2x2x0,8 (max. 4 Adern pro Klemmpunkt)



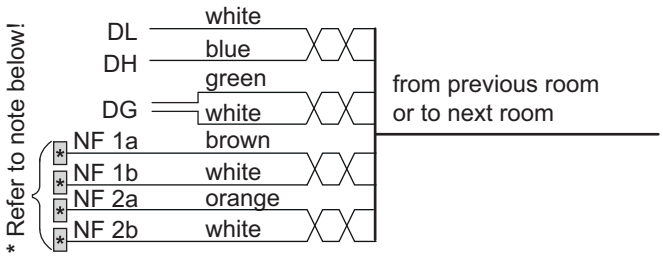
Room bus (RAN) without speech
Cable: IY(ST)Y 2x2x0.8 (max. 4 wires per connection point)



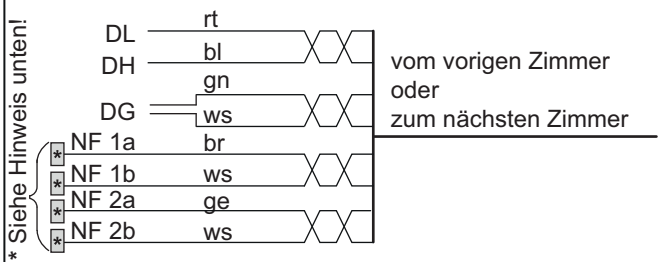
Gruppenbus (OSYnet)
Kabel: CAT7 (22 AWG) oder CAT5 (23 AWG)



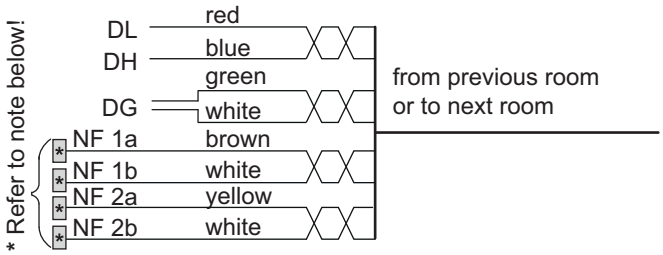
Group bus (OSYnet)
Cable: CAT7 (22 AWG) or CAT5 (23 AWG)



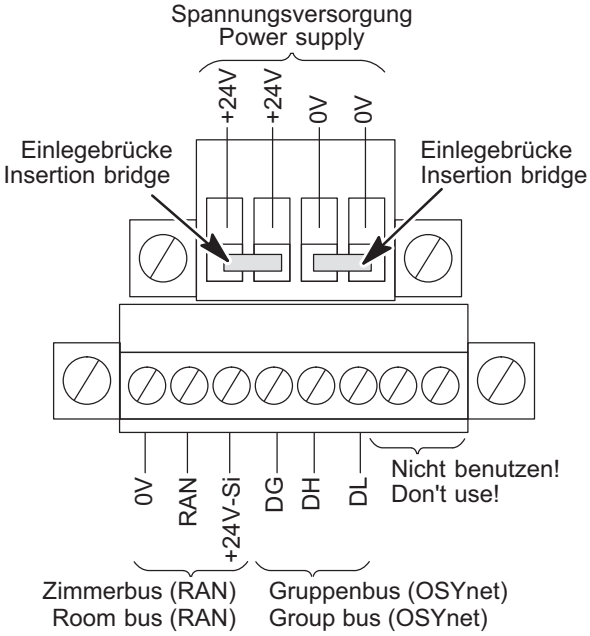
Gruppenbus (OSYnet)
Kabel: IY(ST)Y 4x2x0,8



Group bus (OSYnet)
Cable: IY(ST)Y 4x2x0,8



*** Hinweis!** Die NF-Adern sind nur dann am Gruppenbus OSYnet vorhanden, wenn an dem selben Gruppenbus auch ComTerminals (= Terminals mit Sprachübertragung) angeschlossen sind.
Diese Adern werden an dem ControlTerminal nicht angeschlossen. Sie müssen jeweils mit einer Verbindungsdosenklemme (Bestell-Nr. 00 0222 88, Leitungsdurchmesser 0,6 – 0,8 mm) durchverbunden werden.



*** NOTE!** The NF wires exist only at the group bus OSYnet, if ComTerminals (= terminals with speech) are connected to the same group bus. These wires are not connected to the ControlTerminal. Each of them has to be connected through using the push-wire connector (order no. 00 0222 88, wire diameter 0.6 – 0.8 mm).

Installationsanleitung D

Steckvorrichtung mit Ruftaste, Kanal, Best.-Nr. 70 0171 50
Steckvorrichtung mit zwei 8-poligen Steckbuchsen zum Anschluss von Rufgeräten, wie z.B. Birntastern oder medizinischen Überwachungsgeräten. Der Anschluss für ein zusätzliches, externes Rufgerät inkl. Findelicht und Beruhigungslicht erfolgt von der Rückseite mit einer speziellen Anschlussleitung. Zwei Schaltausgänge für Lichtschaltung. Einbau in medizinische Versorgungseinheit.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Elektromagnetische Verträglichkeit! Durch unzureichende Entstörung von Leuchtstofflampen in medizinischen Versorgungseinheiten kann es zu Störungen der Rufanlage kommen. Unter Umständen lassen sich diese externen Störungen durch den Einbau von Entstörgliedern (Varistor-Schaltungen) vermeiden. Die Varistor-Schaltungen sind bei den Herstellern der medizinischen Versorgungseinheiten zu beziehen. Tunstall bietet hierfür das Überspannungsschutzfilter 230 V (Bestell-Nr. 70 0890 97) an.

Das EMV-Verhalten von verschiedenen medizinischen Versorgungseinheiten kann sehr unterschiedlich sein. Sogar zwei Versorgungseinheiten des gleichen Typs können sich unterschiedlich verhalten, wenn sie unterschiedlich installiert wurden.

In medizinischen Versorgungseinheiten gelten für die Verlegung der Leitungen der Rufanlage die Bestimmungen von DIN EN ISO 11197.

Installation Instructions GB

Connection socket with call switch, bedhead unit, order no. 70 0171 50
Connection socket with two 8-pole sockets for connection of call devices like pear push switches or medical monitoring devices. The connection of an additional external call device incl. location light and reassurance light is made on the back side with a special connection cable. Two outputs for light control. Mounting in a medical supply unit.

Note! The complete installation of the system is described in the technical manual.

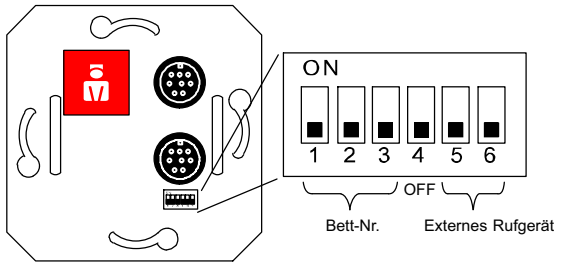
Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Electromagnetic compatibility! Due to insufficient suppression at fluorescent lamps in medical supply units faults in the call system may occur. These external interferences possibly can be avoided by installing suppressor elements (varistor circuits). Varistor circuits are available from the manufacturers of the medical supply units. Tunstall offers a proven overvoltage filter 230 V (order no. 70 0890 97).

Medical supply units may differ clearly in EMC behaviour. Even two supply units of the same type may differ, if the installation is different.

When laying call system cables in medical supply units the regulations of European standard ISO 11197 have to be followed.

Codierschalter einstellen



Bett-Nr.:

1 2 3
ON
= Bett 1
= Bett 2
= Bett 3
= Bett 4
= Bett 5
= Bett 6 *1

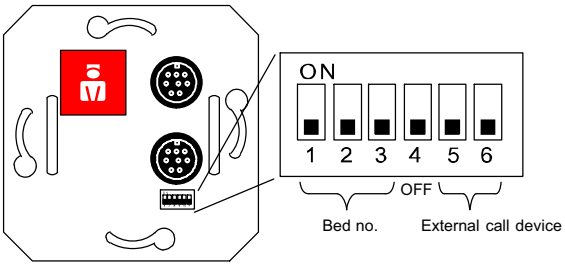
Externes Rufgerät:

5 6
ON
= Kein externes Rufgerät angeschlossen.
= Externes Rufgerät ist Schließer.
= Externes Rufgerät ist Öffner.

Codierschalter **4** muss immer in Position **OFF** stehen.

***1** Achtung: Diagnostikrufe können nur verwendet werden, wenn ein Bett-Nr. eingestellt ist. Bei Bett-Nr. 6 kann kein Diagnostikruf verwendet werden.

Setting coding switches



Bed no.:

1 2 3
ON
= Bed 1
= Bed 2
= Bed 3
= Bed 4
= Bed 5
= Bed 6 *1

External call device:

5 6
ON
= No external call device connected.
= Normally open contact.
= Normally closed contact.

Coding switch **4** must always be set to **OFF**.

***1** Attention: A diagnostic call can only be used, if a bed number is set. With bed number 6 no diagnostic call can be used.

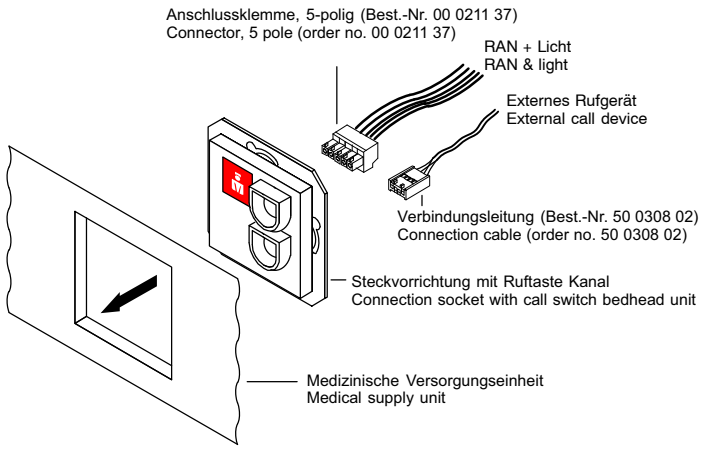
Montage

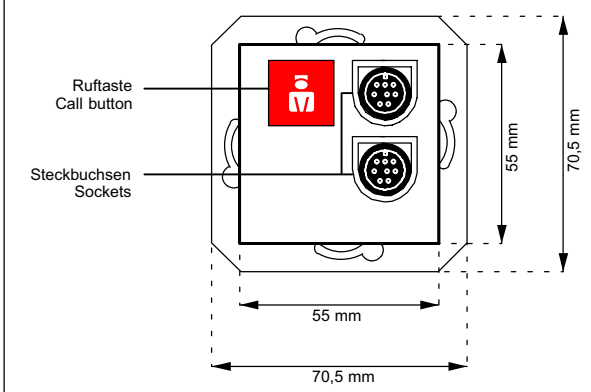
Der Einbau der Steckvorrichtung in die medizinische Versorgungseinheit ist von der jeweiligen Ausführung der Versorgungseinheit abhängig. Der Einbau erfolgt durch den Hersteller der medizinischen Versorgungseinheit.

Mounting

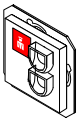
The mounting depends on the individual model of the medical supply unit. The connection socket is mounted by the manufacturer of the medical supply unit.

Rückwärtige Montage: / Mounting from backside:



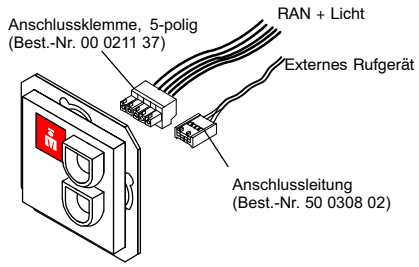


70 0171 50
Steckvorrichtung mit Ruftaste, Kanal
Connection socket with call switch, bedhead unit

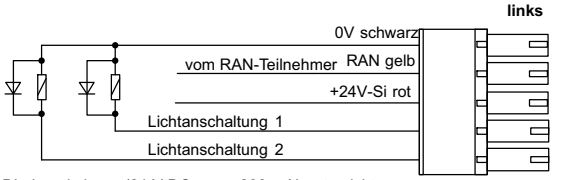


Anschlüsse D

Zum Anschluss als externes Rufgerät darf ein Öffner- oder ein Schließer-Kontakt verwendet werden. Der Anschluss erfolgt über die Anschlussleitung, Best.-Nr. 50 0308 02 (Länge: 50 cm). Die maximale Leitungslänge für den externen Rufanschluss beträgt 2,5 m.



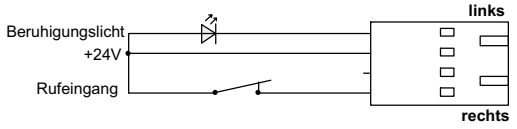
RAN und Licht anschließen:



Die Impulsdauer (24 V DC, max. 200 mA) entspricht der Dauer des Tastendrucks.

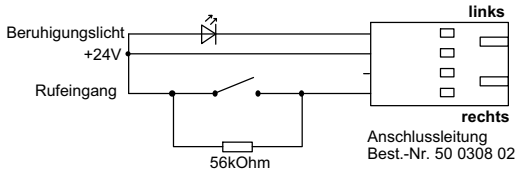
Anschlussklemme
Best.-Nr. 00 0211 37

Externes Rufgerät als Öffner anschließen:



Anschlussleitung
Best.-Nr. 50 0308 02

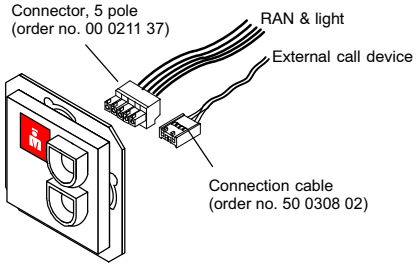
Externes Rufgerät als Schließer (z.B. Siemens Mediset) anschließen:



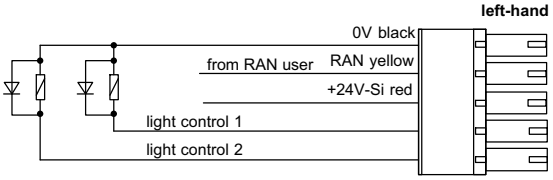
Anschlussleitung
Best.-Nr. 50 0308 02

Connections GB

As external call device a normally-closed or a normally-open contact may be used. The external call device is connected via the special connection cable, order no. 50 0308 02 (length: 50 cm). The maximum cable length for the external call device is 2.5 m.



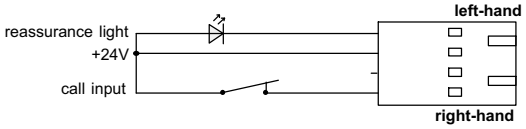
Connecting RAN and light:



The pulse duration (24 V DC, 200 mA max.) is the same as the duration of depressing the button.

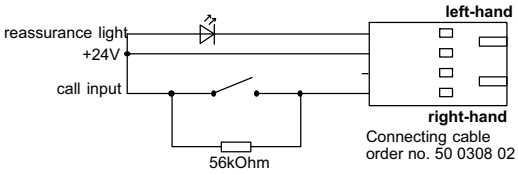
Connector
order no. 00 0211 37

Connecting external call device as normally closed contact:



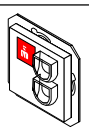
Connecting cable
order no. 50 0308 02

Connecting external call device as normally open contact (e.g. Siemens Mediset):



Connecting cable
order no. 50 0308 02

70 0171 50
Steckvorrichtung mit Ruftaste, Kanal
Connection socket with call switch, bedhead unit



CE

00 8801 81, 04/2014 (Rev. 3.0)

Tunstall

Installationsanleitung D

Steckvorrichtung mit Ruftaste, Best.-Nr. 70 0171 60...*)
Steckvorrichtung mit zwei 8-poligen Steckbuchsen zum Anschluss von Rufgeräten, wie z.B. Birntastern oder medizinischen Überwachungsgeräten. Der Anschluss für ein zusätzliches, externes Rufgerät inkl. Findelicht und Beruhigungslicht erfolgt von der Rückseite mit einer speziellen Anschlussleitung. Zwei Schaltausgänge für Lichtschaltung.

*) Der Buchstabe am Ende der Best.-Nr. kennzeichnet den Rahmen des Tasters:

70 0171 60A: Rahmen (HxB): 91 x 91 mm
70 0171 60F: Rahmen (HxB): 80 x 80 mm
70 0171 60C: Rahmen (HxB): 107 x 107 mm, Vorsicht! Rahmen C besteht aus Echtglas!

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Installation Instructions GB

Connection socket with call switch, order no. 70 0171 60...*)
Connection socket with two 8-pole sockets for connection of call devices like pear push switches or medical monitoring devices. The connection of an additional external call device incl. location light and reassurance light is made on the back side with a special connection cable. Two outputs for light control.

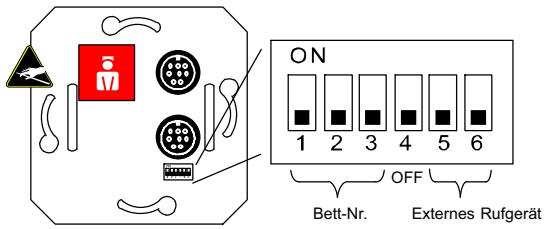
*) The letter at the end of the order number represents the frame of the switch:

70 0171 60A: Frame (HxW): 91 x 91 mm
70 0171 60F: Frame (HxW): 80 x 80 mm
70 0171 60C: Frame (HxW): 107 x 107 mm, Caution! The frame C is made from real glass!

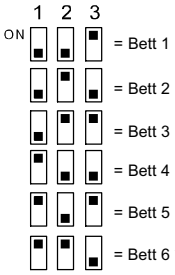
Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

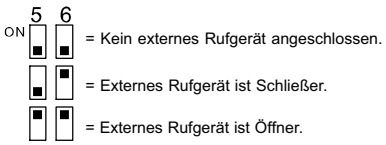
A Codierschalter einstellen



Bett-Nr.:



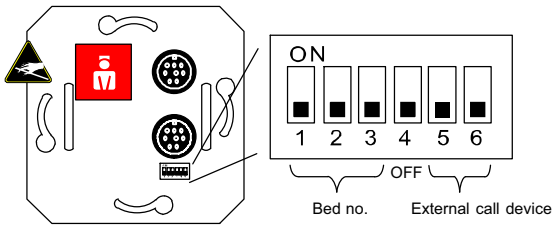
Externes Rufgerät:



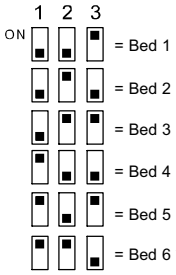
Codierschalter **4** muss immer in Position **OFF** stehen.

***1** Achtung: Diagnostikrufe können nur verwendet werden, wenn eine Bett-Nr. eingestellt ist. Bei Bett-Nr. 6 kann kein Diagnostikruf verwendet werden.

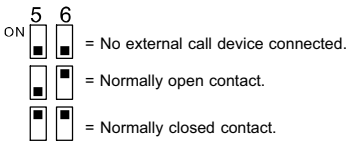
A Setting coding switches



Bed no.:



External call device:



Coding switch **4** must always be set to **OFF**.

***1** Attention: A diagnostic call can only be used, if a bed number is set. With bed number 6 no diagnostic call can be used.

B Montage

1* Einbaudose, 1-teilig (Mauerwerk: 17 0100 00, Hohlwand: 17 5100 00)
2* Anschlussklemme, 5-polig (00 0211 37)
3* Verbindungsleitung (50 0308 02)
4 Leiterplatte
5* Schrauben der Einbaudose
6 Rahmen
7 Zwischenrahmen
8 Zentralplatte
* ist nicht im Lieferumfang enthalten.

1. 5-polige Anschlussklemme **2** in die 5-polige Buchse auf der Rückseite der Leiterplatte **4** stecken.
2. Wenn externes Rufgerät angeschlossen wird, Klemme der Verbindungsleitung **3** zu dem externen Rufgerät in die entsprechende Buchse auf der Rückseite der Leiterplatte **4** stecken.
3. Leiterplatte **4** mit den Schrauben **5** der Einbaudose auf der Einbaudose **1** festschrauben.
4. Zentralplatte **8** zusammen mit dem Zwischenrahmen **7** und dem Rahmen **6** auf die Leiterplatte **4** aufdrücken, bis sie beidseitig hörbar einrastet.

B Mounting

1* Back box, 1-gang (solid wall: 17 0100 00, partition wall: 17 5100 00)
2* Connector, 5 pole (00 0211 37)
3* Connection cable (50 0308 02)
4 Printed circuit board PCB
5* Back box screws
6 Frame
7 Intermediate frame
8 Central plate
* Not included with product delivery.

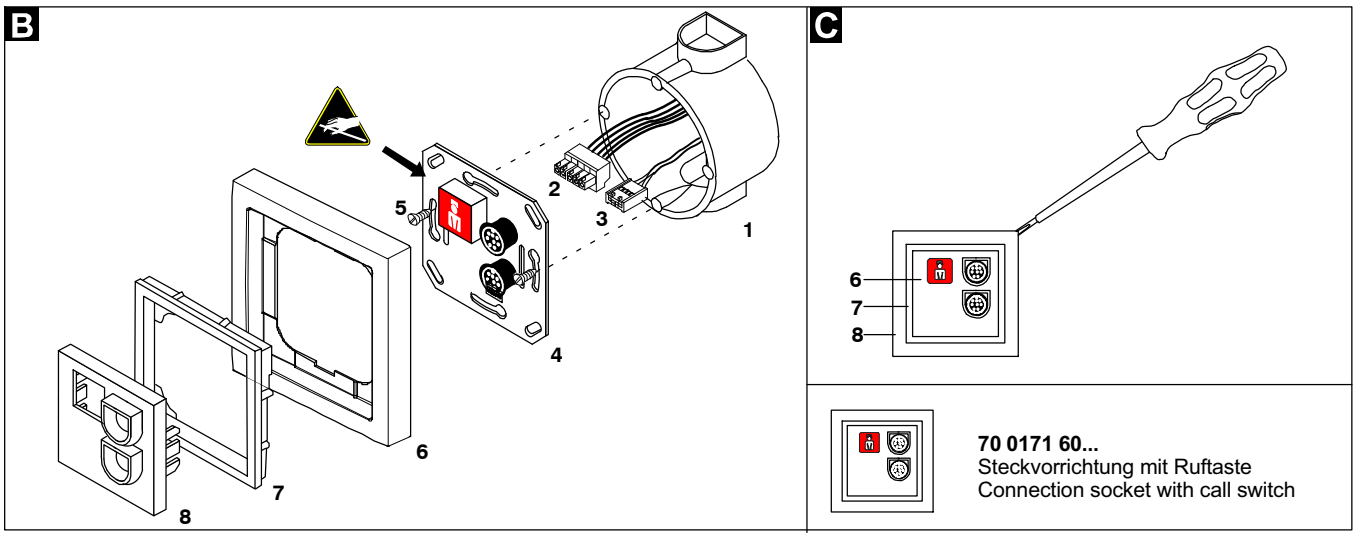
1. Plug the 5-pole connector **2** into the 5-pole socket on the rear side of the PCB **4**.
2. If an external call device shall be connected, plug the connector of the connection cable **3** for the external call device into the appropriate socket on the rear side of the PCB **4**.
3. Screw the PCB **4** to the back box **1** with the back box screws **5**.
4. Press the central plate **8** together with the intermediate frame **7** and the frame **6** onto the PCB **4** until it engages audibly on both sides.

C Demontage

1. Rahmen **6** zusammen mit dem Zwischenrahmen **7** und der Zentralplatte **8** mit einem Schraubendreher von der Wand abhebeln.
2. Schrauben **5** der Einbaudose lösen und Leiterplatte **4** von der Einbaudose **1** abnehmen.
3. Anschlussklemmen an der Rückseite der Leiterplatte **4** abziehen.

C Dismantling

1. Lever frame **6** together with the intermediate frame **7** and the central plate **8** off the wall with a screw driver.
2. Undo the back box screws **5** and remove the PCB **4** from the back box **1**.
3. Unplug the connectors from the rear of the PCB **4**.

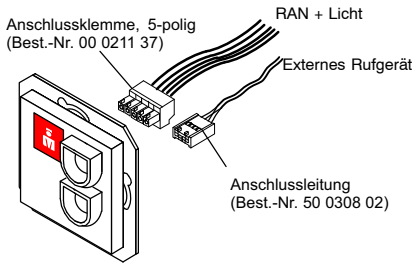


70 0171 60...
Steckvorrichtung mit Ruftaste
Connection socket with call switch

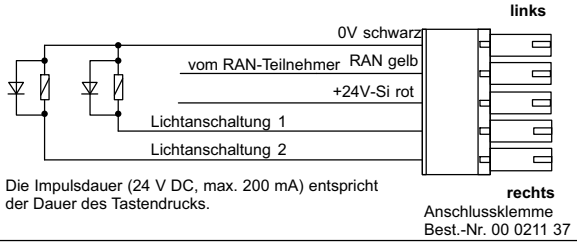
00 8803 15, 03/2015 (Rev. 1.0)

Anschlüsse D

Zum Anschluss als externes Rufgerät darf ein Öffner- oder ein Schließer-Kontakt verwendet werden. Der Anschluss erfolgt über die Anschlussleitung, Best.-Nr. 50 0308 02 (Länge: 50 cm). Die maximale Leitungslänge für den externen Rufanschluss beträgt 2,5 m.

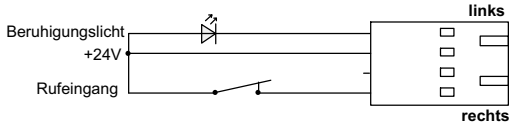


RAN und Licht anschließen:

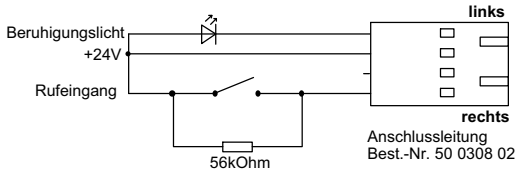


Die Impulsdauer (24 V DC, max. 200 mA) entspricht der Dauer des Tastendrucks.

Externes Rufgerät als Öffner anschließen:

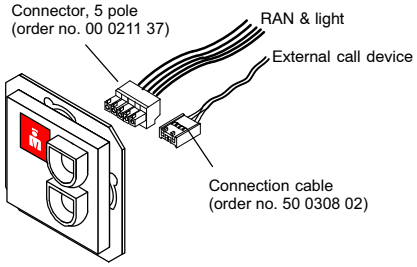


Externes Rufgerät als Schließer (z.B. Siemens Mediset) anschließen:

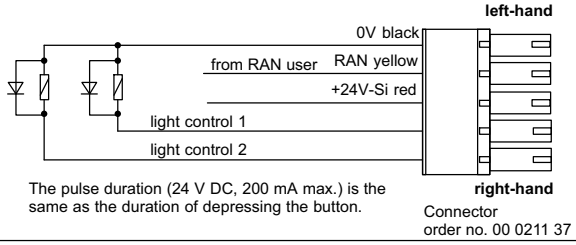


Connections GB

As external call device a normally-closed or a normally-open contact may be used. The external call device is connected via the special connection cable, order no. 50 0308 02 (length: 50 cm). The maximum cable length for the external call device is 2.5 m.

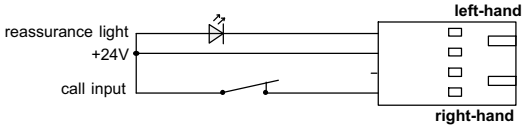


Connecting RAN and light:

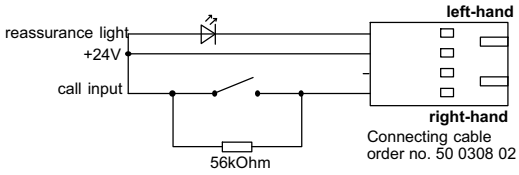


The pulse duration (24 V DC, 200 mA max.) is the same as the duration of depressing the button.

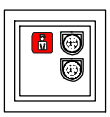
Connecting external call device as normally closed contact:



Connecting external call device as normally open contact (e.g. Siemens Mediset):



70 0171 60...
Steckvorrichtung mit Ruftaste
Connection socket with call switch



00 8803 15, 03/2015 (Rev. 1.0)

Installationsanleitung D

Steckvorrichtung Kombi, Best.-Nr. 70 0424 00, 70 0425 00

Steckvorrichtung mit zwei unterschiedlichen Steckbuchsen zum Anschluss von Bedien- und Rufgeräten. Vorgesehen für folgende Funktionen: Übertragung von Rufen, Steuerung von 2 Lichtquellen, TV-Übertragung, ELA-Übertragung oder optional Steuerung von einem externen Aktor (z.B. Jalousiesteuerung). Vorzugsweise hergestellt für den Wandeinbau.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

1. Buchsenelement **1** in die Einbaudose stecken.
2. Montagerahmen **2** zusammen mit dem Buchsenelement auf die Einbaudose schrauben.
3. Beide Stecker **3** mit den Steckbuchsen verbinden (Stecker A in Buchse A, Stecker B in Buchse B).
4. Abdeckplatte **4** auf den Montagerahmen **2** drücken.

B Anschluss

- Verwendbare Leitungsquerschnitte: 0,55 - 1 mm Ø.
- Abgeschirmte Leitungen für LS, MIC bis auf max. 30 mm absetzen!
- Zur Vermeidung von Kurzschlüssen den Beidraht (SCH) isolieren.
- Nur einen Schaltdraht pro Klemme einstecken.

Handhabung der Klemmen mit lötfreier Anschlusstechnik nach dem Steckklemmprinzip:

1. Leiter 8 mm abisolieren.
2. Abisolierten Leiter bis zum Anschlag in die Klemme stecken.
3. Zum Lösen des Leiters einen Schraubendreher mit einer Klinge 2,5 x 0,4 mm oder 3,5 x 0,5 mm in die Öffnung stecken und den Leiter herausziehen.

Hinweis! Zum Anschluss des Schirmdrahts Schraubendreher in die Öffnung stecken und Federkontakt mit dem Schraubendreher geöffnet halten, während Sie die Schirmleitung einführen. Anschließend korrekte Kontaktbelegung prüfen durch Ziehen an der Leitung.

TV

In Verbindung mit der Anschaltung eines TV-Geräts ist die Bedienung und der zur Verfügung stehende Funktionsumfang unterschiedlich und abhängig von dem verwendeten TV-Gerät sowie der integrierten Steuerung. Genaue Einzelheiten der Anschaltung und der Funktionen sollten vor der Installation mit dem Auftraggeber geklärt werden.

C DIP-Schalter einstellen

Bettennummer 1 bis 6 einstellen: Mit den DIP-Schaltern „P3“, „P2“, „P1“ wie in der Tabelle abgebildet einstellen. Beispiel.: Bettenummer 1 = „P3“ OFF, „P2“ OFF, „P1“ ON.
DIP-Schalter „TV“ auf ON: Steuerung von einem externen Aktor (z.B. Jalousiesteuerung).
DIP-Schalter „TV“ auf OFF: ELA-Übertragung.
DIP-Schalter „PG“ nicht verändern.
*1 Achtung: Bei Bettennummer 6 kann kein Diagnostik-Ruf verwendet werden.

Installation Instructions GB

Connection socket combi, order no. 70 0424 00, 70 0425 00

A connection socket with two different sockets for connection of patient units and call devices. Designed for the following functions: transmission of calls, control of two lights, TV transmission, transmission of entertainment programmes or optionally routing of control signals for an external actuator (e.g. blinds control). Suitable for wall mounting.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

1. Fit the socket **1** into the back box.
2. Screw the mounting frame **2** together with the socket onto the back box.
3. Connect both plugs **3** with the sockets (A in A, B in B).
4. Push the cover **4** onto the mounting frame **2**.

B Connection

- Useable wire gauges: 0.55 - 1 mm Ø
- Shielded wires for LS, MIC: Strip to max. 30 mm!
- Insulate the guide wire (SCH) to prevent short circuiting.
- Connect only one wire per terminal.

Handling of terminals with solderless connection technique:

1. Strip the wire (8 mm).
2. Insert the stripped wire into the terminal until it stops.
3. For detaching the wire insert a screw driver with a tip of 2.5 x 0.4 mm or 3.5 x 0.5 mm into the opening and pull out the wire.

Note! For connecting the shield wire, use the screw driver to hold the spring contact open, while you are inserting the shield wire. Afterwards check for a firm wire contact by pulling at the wire.

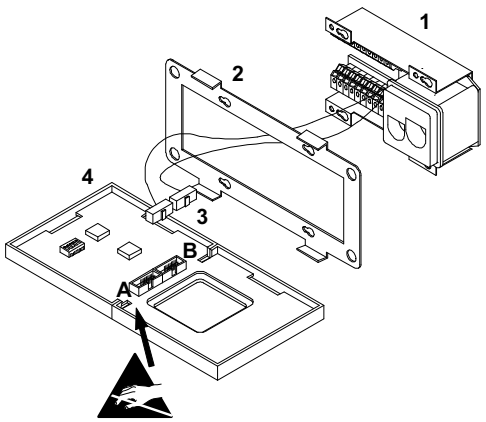
TV

The available TV functions depend on the TV set in use.
Before the final installation, technicians shall check with the ordering party for the project to clarify the details regarding the connection and the functions.

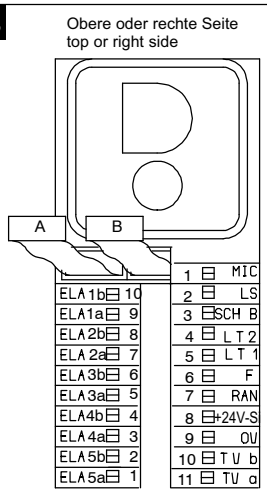
C Setting DIP switches

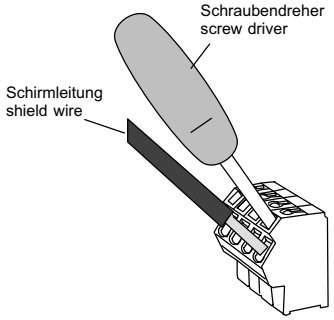
Setting of bed numbers 1 to 6: Use DIP switches „P3“, „P2“, „P1“ as shown in the table.
Example: Bed number 1 = „P3“ OFF, „P2“ OFF, „P1“ ON
DIP switch „TV“ ON: Routing of control signals for an external actuator (e.g. blinds control).
DIP switch „TV“ OFF: Transmission of entertainment programmes (ELA).
DIP switch „PG“: Do not change.
*1 Attention: With bed number 6 diagnostic call is not possible.

A



B

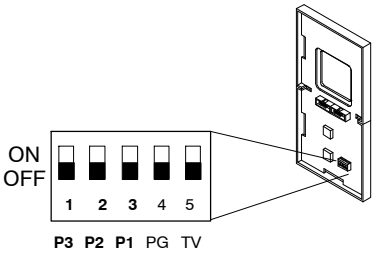




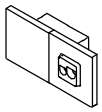
C

	P3	P2	P1
1	off	off	on
2	off	on	off
3	off	on	on
4	on	off	off
5	on	off	on
6	on	on	off

*1

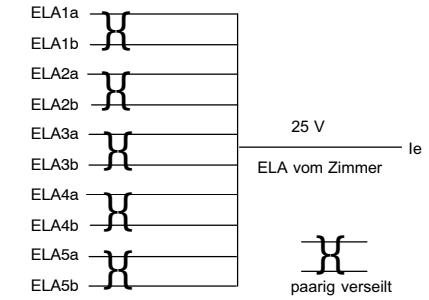


70 0424 00
70 0425 00
Steckvorrichtung Kombi
Connection socket combi



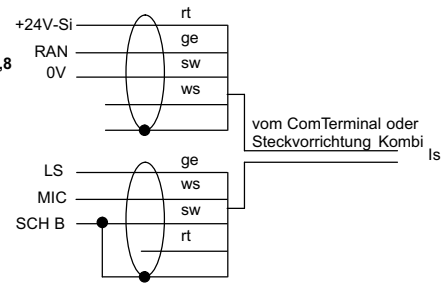
Anschlüsse D

ELA

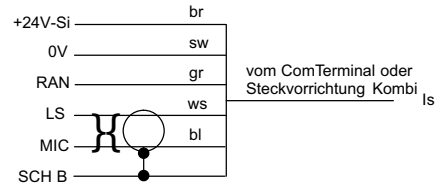


Zimmerbus (RAN)

Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel: 2x IY(ST)Y 2x2x0,8

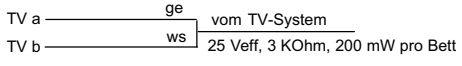


Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel: CCS32-Kabel



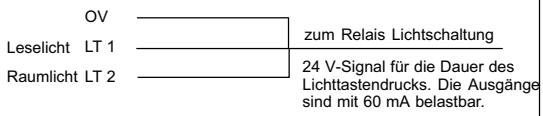
TV

TV-Ton zum Bett

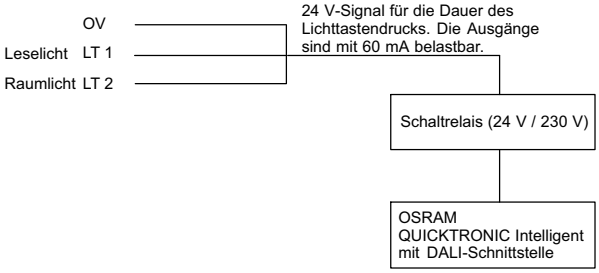


Licht

Anschaltung Lichtrelais (Licht nicht dimmbar)

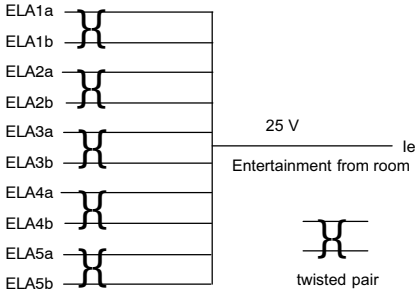


Anschaltung Lichtsteuerung (inkl. Dimmfunktion)
z.B. Digital dimmbares elektronisches Vorschaltgerät
OSRAM QUICKTRONIC Intelligent mit DALI-Schnittstelle.



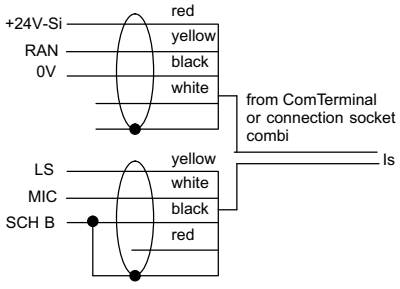
Connections GB

Entertainment

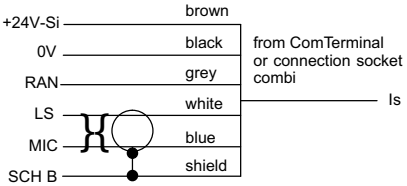


Room bus (RAN)

Room bus (RAN)
(max. 2 connections)
Cable: 2x IY(ST)Y 2x2x0.8

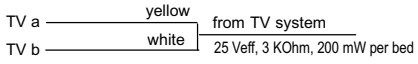


Room bus (RAN)
(max. 2 connections)
Cable: CCS32 cable



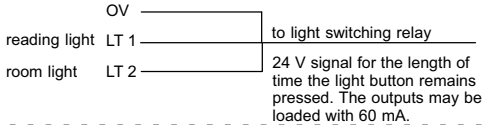
TV

TV sound to the bed

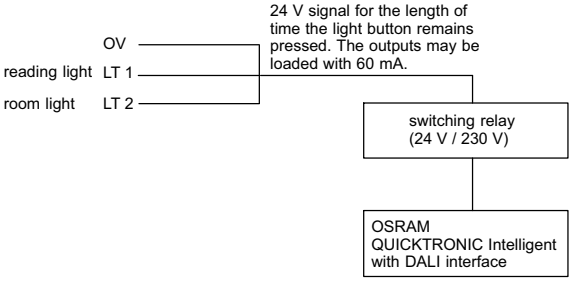


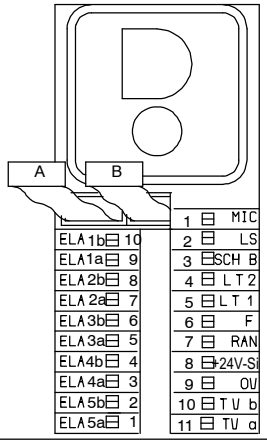
Light

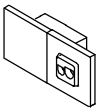
Connection of light relays (light not dimmable)



Connection of light control (incl. dimming function)
e.g. Digitally dimmable electronic ballast
OSRAM QUICKTRONIC Intelligent with DALI interface.







70 0424 00
70 0425 00
Steckvorrichtung Kombi
Connection socket combi

Installationsanleitung D

Steckvorrichtung Kombi Kanal, Best.-Nr. 70 0434 00, 70 0435 00
Steckvorrichtung mit zwei unterschiedlichen Steckbuchsen zum Anschluss von Bedien- und Rufgeräten. Vorgesehen für folgende Funktionen: Übertragung von Rufen, Steuerung von 2 Lichtquellen, TV-Übertragung, ELA-Übertragung oder optional Steuerung von einem externen Aktor (z.B. Jalousiesteuerung). Vorzugsweise hergestellt für den Einbau in medizinische Versorgungseinheiten.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Elektromagnetische Verträglichkeit! Durch unzureichende Entstörung von Leuchtstofflampen in medizinischen Versorgungseinheiten kann es zu Störungen der Rufanlage kommen. Unter Umständen lassen sich diese externen Störungen durch den Einbau von Entstörgliedern (Varistor-Schaltungen) vermeiden. Die Varistor-Schaltungen sind bei den Herstellern zu beziehen. Tunstall bietet hierfür das Überspannungsschutzfilter 230 V (70 0890 97) an.
Das EMV-Verhalten von verschiedenen medizinischen Versorgungseinheiten kann sehr unterschiedlich sein. Sogar zwei Versorgungseinheiten des gleichen Typs können sich unterschiedlich verhalten, wenn sie unterschiedlich installiert wurden.

In medizinischen Versorgungseinheiten gelten für die Verlegung der Leitungen der Rufanlage die Bestimmungen von DIN EN ISO 11197.

A Steckvorrichtung einstellen

Folgende Einstellungen müssen vor Einbau der Steckvorrichtung gemacht werden:

1. Bettennummer einstellen

Bett-Nr.	Jumper gesteckt:
Bett 1	P1
Bett 2	P2
Bett 3	P1, P2 (werkseitige Einstellung)
Bett 4	P3
Bett 5	P1, P3
Bett 6*)	P2, P3

*) Bei Bett-Nr. 6 kann kein Diagnostikruf verwendet werden.

2. Lichtoption

Jumper offen:	Separate Ausgänge LT1 und LT2 für die Lichtrelais (Lichttasten separat)
Jumper gesteckt:	Ausgänge LT1 und LT2 sind verbunden (Lichttasten parallel). In diesem Fall nur ein Relais anschließen.

3. Funktionsoption

Jumper 1 gesteckt:	ELA-Übertragung (werkseitige Einstellung).
Jumper 2 gesteckt:	Steuerung von einem externen Aktor (z.B. Jalousiesteuerung).

4. TV-Tonkanal TV1 - TV4
Für diese Einstellung werden immer 2 Jumper gesteckt.
Bei sternförmig verteiltem TV-Ton wird der Tonkanal entsprechend der Bett-Nummer eingestellt.

Bett-Nr.	Jumper gesteckt:
Bett 1	TV1
Bett 2	TV2
Bett 3	TV3
Bett 4	TV4

Bei parallel verteiltem TV-Ton wird der Tonkanal 1 gewählt.

TV-Ton
Die verfügbaren TV-Funktionen hängen von dem verwendeten TV-Gerät ab. Einzelheiten der Anschaltung und der Funktionen sollten vor der Installation mit dem Auftraggeber geklärt werden.

Montage

Der Einbau der Steckvorrichtung in die medizinische Versorgungseinheit ist von der jeweiligen Ausführung der Versorgungseinheit abhängig.

1. Gehäuse der medizinischen Versorgungseinheit öffnen.
2. Steckvorrichtung einsetzen.
3. Das Flachbandkabel zum Anschluss an die mediz. Versorgungseinheit aufstecken.
4. Bei vorhandenem Bettenlicht auch den Anschluss zum Lichtrelais aufstecken.
5. Gehäuse der medizinischen Versorgungseinheit schließen.

Installation Instructions GB

Connection socket combi bedhead unit, order no. 70 0434 00, 70 0435 00

A connection socket with two different sockets for connection of patient units and call devices. Designed for the following functions: transmission of calls, control of two lights, TV transmission, transmission of entertainment programmes or optionally routing of control signals for an external actuator (e.g. blinds control). Suitable for mounting in medical supply units.

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

Electromagnetic compatibility! Due to insufficient suppression at fluorescent lamps in medical supply units faults in the call system may occur. These external interferences possibly can be avoided by installing suppressor elements (varistor circuits). Varistor circuits are commercially available from electric/electronic suppliers. Tunstall offers a proven overvoltage filter 230 V (order no. 70 0890 97).
Medical supply units may differ clearly in EMC behaviour. Even two supply units of the same type may differ, if the installation is different.

When laying call system cables in medical supply units the regulations of European standard ISO 11197 have to be followed.

A Setting the connection socket

Before mounting the connection socket please adjust as follows:

1. Setting of bed numbers

Bed no.	jumper placed:
Bed 1	P1
Bed 2	P2
Bed 3	P1, P2 (factory setting)
Bed 4	P3
Bed 5	P1, P3
Bed 6*)	P2, P3

*) When using bed number 6 no diagnostic call can be used.

2. Light option

Jumper open:	Separate outputs LT1 and LT2 for the light relays (light switches are separate).
Jumper placed:	Outputs LT1 and LT2 are connected (light switches are parallel). In this case connect only one relay.

3. Functional option

Jumper 1 placed:	Transmission of entertainment programmes (ELA, factory setting).
Jumper 2 placed:	Routing of control signals for an external actuator (e.g. blinds control).

4. TV tone TV1 - TV4
For this settings, always place 2 jumpers.
Where star-type distribution of TV tone is provided, the tone channel is set in reference to the bed number.

Bed no.	Jumper placed:
Bed 1	TV1
Bed 2	TV2
Bed 3	TV3
Bed 4	TV4

Where TV tone is parallel, select tone channel 1.

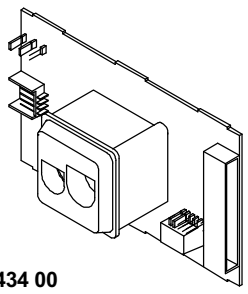
TV-Ton
The available TV functions depend on the TV set in use. Before the final installation, technicians shall check with the ordering party for the project to clarify the details regarding the connection and the functions.

Mounting

After the settings are made the connection socket is mounted into the medical supply unit. The mounting depends on the individual model of the medical supply unit.

1. Open the housing of the medical supply unit.
2. Put in the connection socket.
3. Put on the flat band cable to the medical supply unit.
4. If there is bedlight available put on also the connection to the light relay.
5. Close the housing of the medical supply unit.

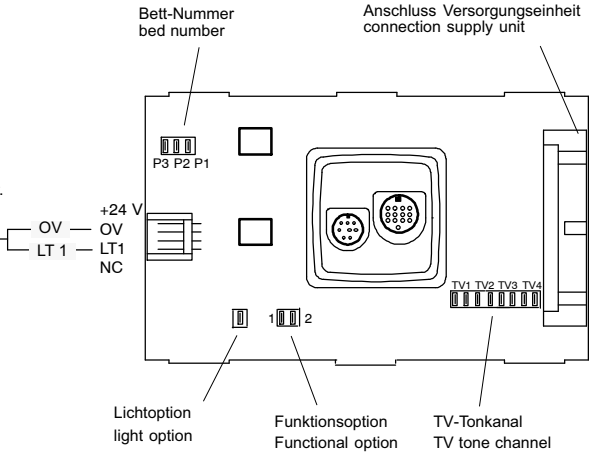
A



70 0434 00
70 0435 00
Steckvorrichtung Kombi Kanal
Connection socket combi bedhead unit

Anschluss Lichtsteuerung Leselicht
24 V-Signal für die Dauer des Lichttastendrucks. Der Ausgang ist mit 60 mA belastbar. Nicht-dimmbares / dimmbares Licht wie bei Raumlicht, siehe nächste Seite.

Connection light control for reading light
24 V signal for the length of time the light switch remains pressed. The output may be loaded with 60 mA.
Non-dimmable and dimmable light same as for room light, refer to next page.



Anschlüsse am Anschlussfeld D

ELA

6 — ELA1a
7 — ELA1b
21 — ELA2a
22 — ELA2b
23 — ELA3a
24 — ELA3b
25 — ELA4a
26 — ELA4b
27 — ELA5a
28 — ELA5b

ELA vom Zimmer — Ie

paarig verseilt

Zimmerbus (RAN)

Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel:
2x IY(ST)Y 2x2x0,8

1 — +24V-Si — rt
11 — RAN — ge
40 — 0V — sw
ws

vom ComTerminal — Is

37 — LS — ge
36 — MIC — ws
35 – SCH B — sw
rt

Zimmerbus (RAN)
(max. 2 Anschlüsse)
Kabel:
CCS32-Kabel

1 — +24V-Si — br
40 — 0V — sw
11 — RAN — gr
37 — LS — ws
36 — MIC — bl
35 – SCH B

vom ComTerminal — Is

Abgeschirmte Leitungen für LS, MIC dürfen max. 30 mm abgemantelt werden!

TV

TV-Ton zum Bett

4 — TV1a
5 — TV1b
31 — TV2a
32 — TV2b
29 — TV3a
30 — TV3b
33 — TV4a
34 — TV4b

paarig verseilt

vom Fernsehsystem — Ia
25 Veff, 3 KOhm,
200 mW pro Bett

Licht

Anschaltung Lichtrelais Raumlicht (Licht nicht dimmbar)

39 — OV
9 — LT 2

zum Relais Raumlicht — Ia
24 V-Signal für die Dauer des Lichttastendrucks.
Der Ausgang ist mit 60 mA belastbar.

Anschaltung Lichtsteuerung Raumlicht (inkl. Dimmfunktion)
z.B. Digital dimmbares elektronisches Vorschaltgerät
OSRAM QUICKTRONIC Intelligent mit DALI-Schnittstelle.

39 — OV
9 — LT 2

24 V-Signal für die Dauer des Lichttastendrucks.
Der Ausgang ist mit 60 mA belastbar.

Schaltrelais (24 V / 230 V)

OSRAM
QUICKTRONIC Intelligent
mit DALI-Schnittstelle

Connections to connection field GB

Entertainment

6 — ELA1a
7 — ELA1b
21 — ELA2a
22 — ELA2b
23 — ELA3a
24 — ELA3b
25 — ELA4a
26 — ELA4b
27 — ELA5a
28 — ELA5b

Entertainment from room — Ie

twisted pair

Room bus (RAN)

Room bus (RAN)
(max. 2 connections)
Cable:
2x IY(ST)Y 2x2x0.8

1 – +24V-Si — red
11 — RAN — yellow
40 — 0V — black
white

from ComTerminal — Is

37 — LS — yellow
36 — MIC — white
35 – SCH B — black
red

Room bus (RAN)
(max. 2 connections)
Cable:
CCS32 cable

1 – +24V-Si — brown
40 — 0V — black
11 — RAN — grey
37 — LS — white
36 — MIC — blue
35 – SCH B — shield

from ComTerminal — Is

Shielded wires for LS, MIC: strip to max. 30 mm!

TV

TV sound to the bed

4 — TV1a
5 — TV1b
31 — TV2a
32 — TV2b
29 — TV3a
30 — TV3b
33 — TV4a
34 — TV4b

twisted pair

from TV system — Ia
25 Veff, 3 KOhm,
200 mW per bed

Light

Connection of light relay for room light (light not dimmable)

39 — OV
9 — LT 2

to light switching relay room light — Ia
24 V signal for the length of time the light switch
remains pressed. The output may be loaded with 60 mA.

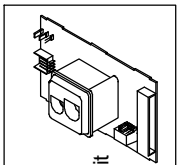
Connection of light control for room light (incl. dimming function)
e.g. Digitally dimmable electronic ballast OSRAM QUICKTRONIC Intelligent with DALI interface.

39 — OV
9 — LT 2

24 V signal for the length of time the light switch remains pressed. The output may be loaded with 60 mA.

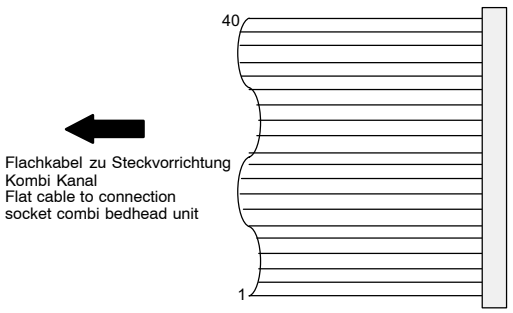
switching relay
(24 V / 230 V)

OSRAM
QUICKTRONIC Intelligent
with DALI interface

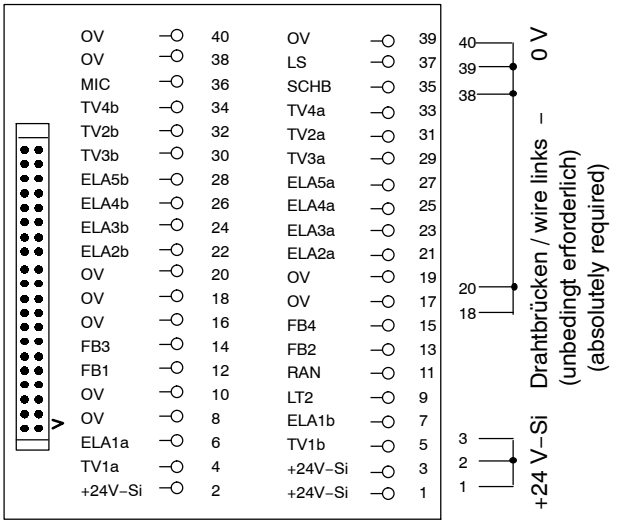


70 0434 00, 70 0435 00
Steckvorrichtung Kombi Kanal
Connection socket combi bedhead unit

Anschlussfeld Versorgungseinheit (Beispiel)
Connection field supply unit (example)



Klemmennummern wie Flachkabel
Terminal numbers as flat cable



Installationsanleitung D

Steckvorrichtung ComStation, Best.-Nr. 77 0452 30 A
Steckvorrichtung ComStation, Best.-Nr. 77 0452 30 C
Steckvorrichtung ComStation, Best.-Nr. 77 0452 30 F
Steckvorrichtung ComStation, Best.-Nr. 74 0452 30

Die Steckvorrichtungen unterscheiden sich nur durch ihr äußeres Design. Alle Steckvorrichtungen können verwendet werden zum Anschluss der Geräte, die in dieser Installationsanleitung genannt werden. Beachten Sie die unterschiedlichen Anschlusspläne für die unterschiedlichen Anwendungen.

- Vorzugsweise hergestellt für den Wandeinbau.
- Passend für zweiteilige Einbaudose (Einbaudose nicht im Lieferumfang)
- 15-polige Buchse als Datensteckdose.
- Vorbereitet für 15-poligen Stecker mit mechanischer Verriegelung.
- 4 Steckklemmen zum Anschluss der 24-V-Stromversorgung bis 2,5 mm^2.
- Anschlüsse als Steckklemmen für Massivdraht, ø 0,55 - 1 mm.
- Kontaktbelastung: max. 3 A

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

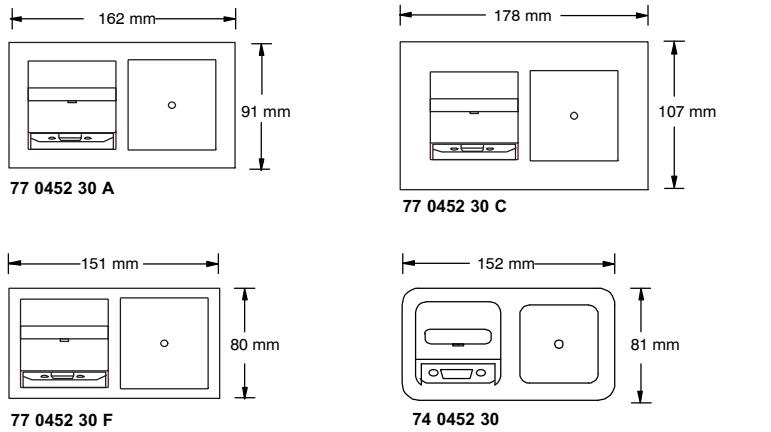
Installation Instructions GB

Connection socket ComStation, order no. 77 0452 30 A
Connection socket ComStation, order no. 77 0452 30 C
Connection socket ComStation, order no. 77 0452 30 F
Connection socket ComStation, order no. 74 0452 30

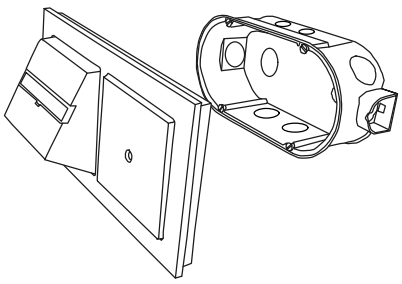
The connection sockets differ only in their external design. All connection sockets can be used for the connection of the devices mentioned in these installation instructions. Observe the different connection diagrams for the different applications.

- Preferably made for wall mounting.
- Suitable for 2-gang back box (back box not included with delivery)
- 15 pole socket as data socket
- Prepared for 15 pole plug with mechanical locking mechanism
- 4 plug-in terminals up to 2.5 mm^2 for connection of the 24 V supply voltage
- Connection as plug-in terminals for solid wire of ø 0.55 - 1 mm.
- Contact current: max. 3 A

Note! The complete installation of the system is described in the technical manual.

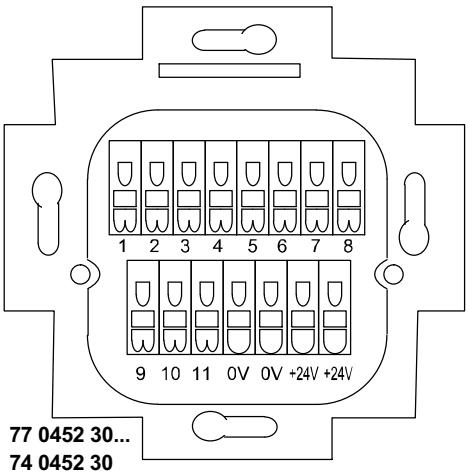


Montage / Mounting:



A

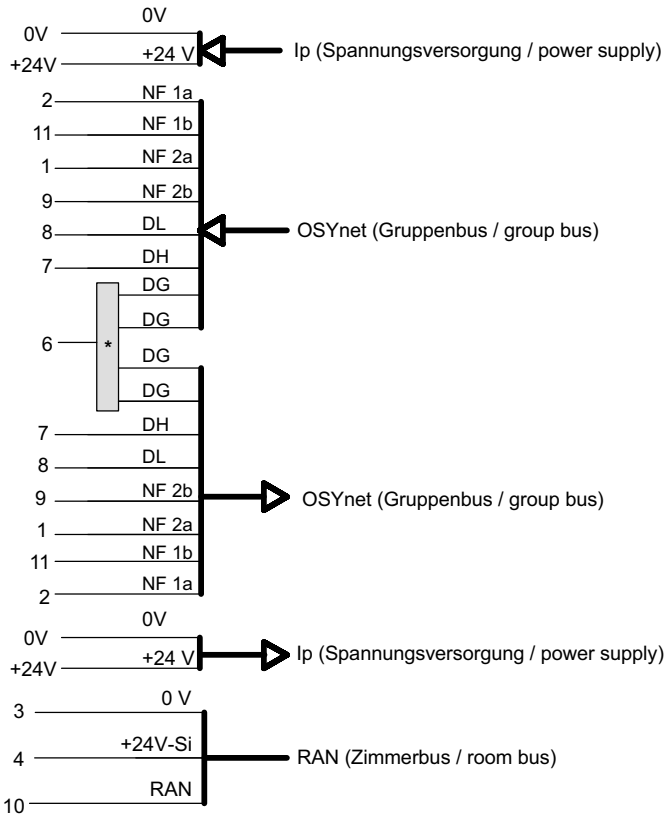
ComStation^{CT} Flamenco, Best.-Nr./order no. 77 0606 00
ComStation^{T} Flamenco, Best.-Nr./order no. 77 0606 20
ComTerminal Flamenco, Tischaufstellung / ComTerminal Flamenco, desktop installation; Best.-Nr./order no. 77 0511 00
ZimmerTerminal Flamenco, Tischaufstellung / RoomTerminal Flamenco, desktop installation; Best.-Nr./order no. 77 0521 00



77 0452 30...
74 0452 30

* Verbindungsdosenklemme, 5-polig (00 0210 21)
Leitungsquerschnitt 0,5 - 2,5 mm^2

* push-wire connector, 5 pole (00 0210 21)
wire cross section: 0.5 - 2.5 mm^2

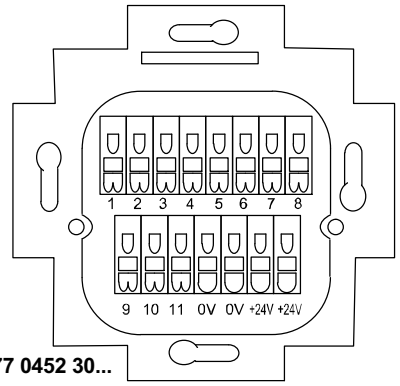


Hinweis für ComStation^{T} (77 0606 20) und ZimmerTerminal Flamenco, Tischaufstellung (77 0521 00)! Die Anschlüsse NF 1a, NF 1b, NF 2a und NF 2b sind in folgenden Installationen nicht erforderlich: Es wird in Zukunft keine ComStation^{CT} (mit Sprechkommunikation, 77 0606 00) und kein ComTerminal Flamenco, Tischaufstellung (77 0511 00) an diese Steckvorrichtung angeschlossen werden.

Note for ComStation^{T} (77 0606 20) and RoomTerminal Flamenco, desktop installation (77 0521 00)! The connections NF 1a, NF 1b, NF 2a and NF 2b are not required in the following installations: There shall neither be connected a ComStation^{CT} (with speech, 77 0606 00) nor a ComTerminal Flamenco, desktop installation (77 0511 00) to this connection socket in the future.

B

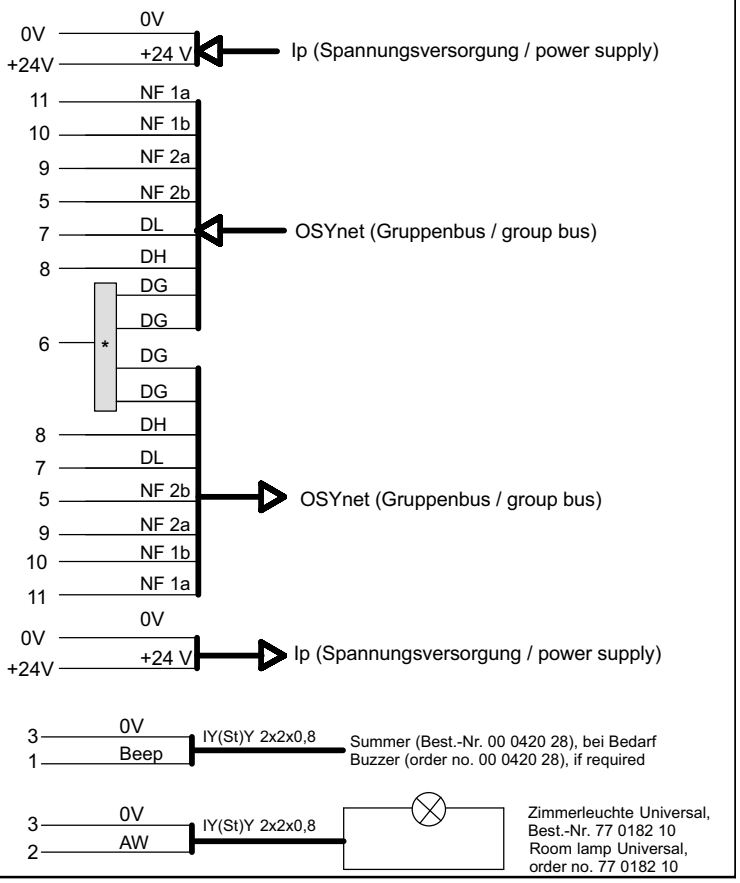
ComStation^{BUS-C}, Best.-Nr./order no. 77 0605 50
ComStation^{BUS-SE}, Best.-Nr./order no. 78 0605 50



77 0452 30...
74 0452 30

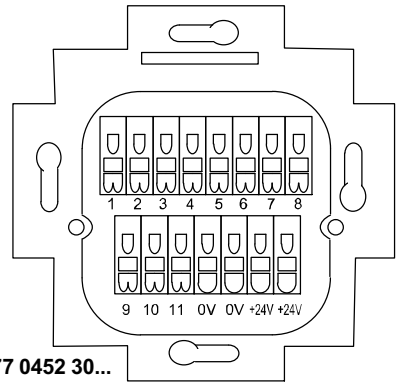
* Verbindungsdosenklemme, 5-polig (00 0210 21)
Leitungsquerschnitt 0,5 - 2,5 mm²

* push-wire connector, 5 pole (00 0210 21)
wire cross section: 0.5 - 2.5 mm²



C

ComStation^{BUS}, Best.-Nr. 77 0605 00
ComStation^{BUS}, order no. 77 0605 10



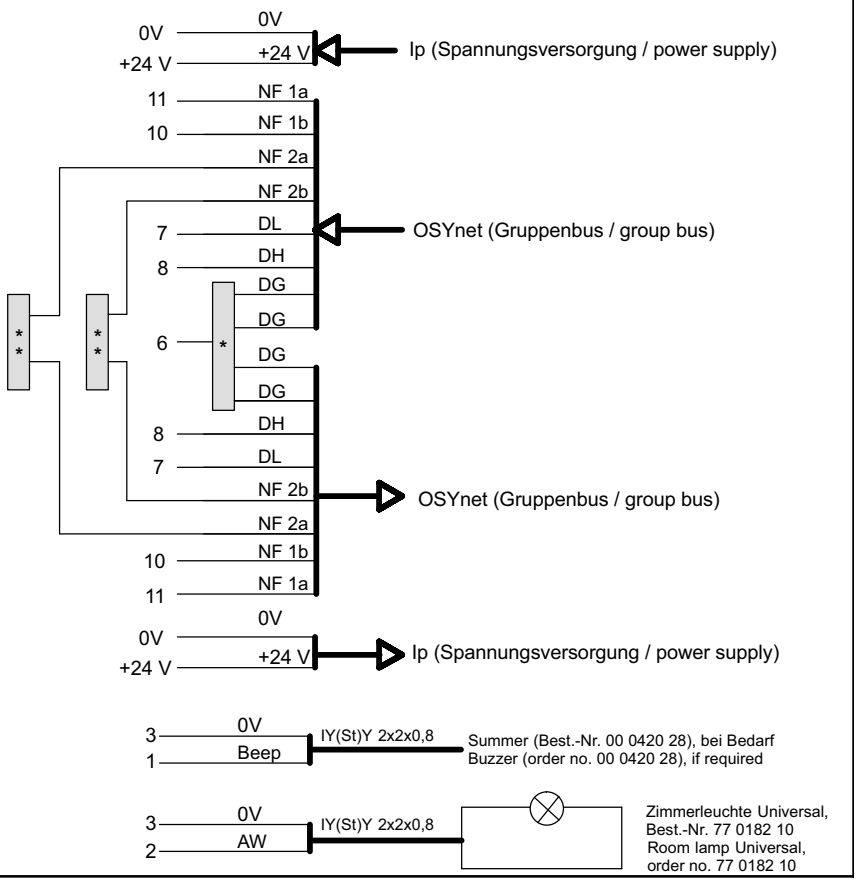
77 0452 30...
74 0452 30

* Verbindungsdosenklemme, 5-polig (00 0210 21)
Leitungsquerschnitt: 0,5 - 2,5 mm²

* push-wire connector, 5 pole (00 0210 21)
wire cross section: 0.5 - 2.5 mm²

** Verbindungsdosenklemme, 4-polig (00 0222 88)
Leitungsdurchmesser: 0,6 - 0,8 mm

** push-wire connector, 4 pole (00 0222 88)
wire diameter:: 0.6 - 0.8 mm



TUNSTALL GmbH — CONNECTION PLAN — ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
A	Sprechstelle	07.08.13	WENDKER
B	Interface	13.10.13	WENDKER
C	Treiber v.05.05 auf 05.06	22.12.15	WENDKER
D	Ergänzt	05.09.17	WENDKER
E	Ergänzt (Beschriftung STV)	23.02.18	WENDKER
Gepr.		23.02.18	Jos
Gez.		18.03.11	WENDKER

ComStation PC
PrimusGlobal+

Order Nr.: / Best.Nr.: 77 0602 00/xx

Drawing No.: / Zeichn.Nr.: 74 1 0061.B 4 9 2

DE - Konfigurationsanleitung

ComStation^{CT} Flamenco, Best.-Nr. 77 0606 00

Terminal in Gegensprechtechnik, vorgesehen zur Tischaufstellung am Dienststützpunkt, inkl. roter Ruftaste, blauer Alarmtaste, grüner Anwesenheitstaste (AW1), gelber Anwesenheitstaste (AW2), 4 Funktionstasten mit situationsabhängiger Belegung, Mikrofon und Lautsprecher.

Hinweis! Die vollständige Installation der Rufanlage ist im Technischen Handbuch beschrieben.

Vorsicht Glas – Zerbrechlich ! Die Bedienfront der ComStation^{CT} besteht aus Glas und kann brechen.

Installation

1. Den Anschlussstecker [2] der ComStation^{CT} Flamenco [1] an die Steckvorrichtung ComStation [3] anschließen.
2. Die beiden Schrauben des Anschlusssteckers [2] festdrehen, um den Stecker gegen unbeabsichtigtes Abziehen zu sichern.

EN - Configuration Instructions

ComStation^{CT} Flamenco, order no. 77 0606 00

Terminal with two-way speech communication, designed for desktop installation in the nurse station, incl. red Call Key, blue Alarm Key, green Presence Key (staff 1), yellow Presence Key (staff 2), 4 Function Keys as soft keys, microphone and loudspeakers.

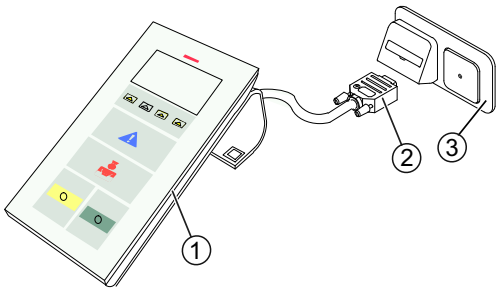
NOTE! The complete installation of the nurse call system is described in the Technical Manual.

Glass – fragile! The operating front cover of the ComStation^{CT} is made of glass. Handle with care!

Installation

1. Connect the connection plug [2] of the ComStation^{CT} Flamenco [1] to the connection socket ComStation [3].
2. Tighten the two screws of the connection plug [2], to protect the connection plug against unintentional disconnection.

Installation



1 - ComStation^{CT} Flamenco
2 - Anschlussstecker
3 - * Steckvorrichtung ComStation

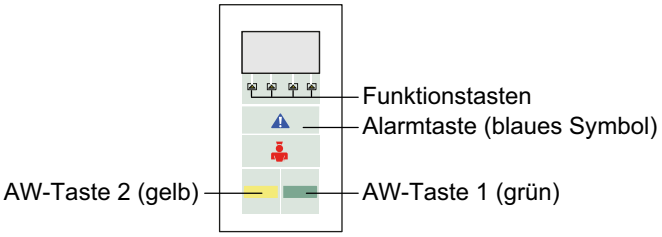
* Nicht im Lieferumfang der ComStation^{CT} enthalten.

1 - ComStation^{CT} Flamenco
2 - Connection plug
3 - * Connection socket ComStation

* Not included with ComStation^{CT} delivery.

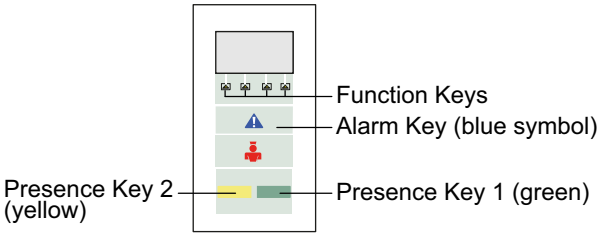
1. Konfigurationsmenü starten

- Funktionstaste ganz links und Funktionstaste ganz rechts gleichzeitig so lange (3 Sek.) gedrückt halten, bis das Konfigurationsmenü im Display erscheint.



1. Start configuration menu

- Press the left and right function keys simultaneously (3 sec.) until the configuration menu is shown in the display.



Symbole im Konfigurationsmenü

●	Kreistaste	Markierten Menüpunkt einstellen.
▲	Pfeiltaste nach oben	In der Liste nach oben wandern.
▼	Pfeiltaste nach unten	In der Liste nach unten wandern.
⌂	Haustaste	Abbrechen, ohne zu speichern.

Symbols in the configuration menu

●	Circle key	Set the marked menu item.
▲	Upwards arrow key	Scroll upwards through the list.
▼	Downwards arrow key	Scroll downwards through the list.
⌂	Home key	Cancel, without storing.

DE - Konfigurationsanleitung

Menüpunkte

Sprache:	Sprache der Displaytexte einstellen.
RAN > RAN Anzahl:	Anzahl Zimmergeräte (= RAN Anzahl) einstellen.
RAN > Test RAN:	Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.
RAN > Status:	Prüfung, ob eingestellte RAN Anzahl mit Anzahl funktionsbereiter Zimmergeräte übereinstimmt.
Adresse:	Zimmer-Adresse einstellen.
Reinigungszeit:	Sekunden einstellen, die benötigt werden um die Front der ComStation^{CT} abzuwischen.
Kontrast:	Nur für Tunstall-Techniker.
Tastenton:	Ton bei Drücken der Tasten an der ComStation^{CT} ein- oder ausschalten. „Tastenton EIN“ (Werkseinstellung) wird empfohlen.
Störungston:	Lautstärke des Tons beim Auftreten einer Störung einstellen.
Info:	Revision der Software in der ComStation^{CT} anzeigen lassen.
Audio Test:	Verwendung durch Tunstall-Techniker.
Tastenfunktion:	Funktion der Alarmtaste und der Anwesenheitstasten an der ComStation^{CT} einstellen.
Reset:	Verwendung nur durch Tunstall-Techniker. (ComStation^{CT} neu starten)

2. Zwingend erforderliche Einstellungen

Sprache einstellen

1. Mit den Pfeiltasten „Sprache“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Sprache markieren: D = Deutsch, GB = Englisch usw.
3. Kreistaste drücken, um die Auswahl einzustellen.

RAN-Anzahl einstellen (0 – 30)

RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die über RAN angeschlossen sind (**Kein** Birntaster, **keine** PBK Hand).

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „RAN Anzahl“ markieren; dann Kreistaste drücken.
3. Mit den Pfeiltasten RAN-Anzahl des Zimmers markieren.
4. Kreistaste drücken, um die Auswahl einzustellen.

Zimmer-Adresse einstellen (0 – 110)

1. Mit den Pfeiltasten „Adresse“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Adresse markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

EN - Configuration Instructions

Menu items

Language:	Selecting the user language.
RAN > RAN number:	Setting of number of room devices (= RAN number).
RAN > Test RAN:	Test if room devices are ready to operate and if they are correctly connected to the RAN.
RAN > Status:	Check whether the stored RAN number is equal to the number of operational room devices.
Address:	Setting of room address.
Cleaning time:	Setting the time (seconds) how long it takes to wipe the front of the ComStation^{CT}.
Contrast:	Function use only for Tunstall technicians.
Key sound:	Switching the key sound on or off. “Key sound ON” (factory setting) is recommended.
Fault tone:	Setting the fault tone volume.
Info:	Displaying the ComStation's software revision.
Audio Test:	Function use only for Tunstall technicians.
Key Function:	Setting the function of Alarm Key, Presence Key 1 and Presence Key 2 on the ComStation^{CT}.
Reset:	Function use only for Tunstall technicians. (Restart the ComStation^{CT}).

2. Entering of necessary settings

Selecting the user language

1. Mark “Language“ using the arrow keys. Then press the circle key.
2. Mark the desired language using the arrow keys: D = German; GB = English, etc.
3. Press the circle key to set the selection.

Setting of RAN number (0 – 30) (Room Area Network)

RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) that are connected via RAN. (**No** pear push switch, **no** patient handset).

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “RAN number” using the arrow keys. Then press the circle key.
3. Mark the desired RAN number using the arrow keys.
4. Press the circle key to set the selection.

Setting of room address (0 – 110)

1. Mark “Address” using the arrow keys. Then press the circle key.
2. Mark the desired room address using the arrow keys.
3. Press the circle key to set the selection.

DE - Konfigurationsanleitung

3. Optionale Einstellungen

Die übrigen Menüpunkte bieten optionale Einstellungen. Stellen Sie diese bei Bedarf ein. Beispiele:

Störungston leise, mittel, laut oder aus

Warnung! Der Ton, der auf Störungen aufmerksam macht, darf nur dann ausgeschaltet werden, wenn sichergestellt ist, dass Störungen auf andere Art sicher angezeigt werden.

1. Mit den Pfeiltasten „Störungston“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Leise“, „Mittel“, „Laut“ oder „Aus“ markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

Tastenfunktion einstellen

Achtung! Ausgeschaltete Tasten sind im Pflegebetrieb nicht verfügbar!

Alarmtaste

In der Werkseinstellung ist die Alarmtaste an der ComStation^{CT} funktionsbereit und wird durch kurzes Drücken ausgelöst.

Wenn die Gefahr besteht, dass die Alarmtaste versehentlich ausgelöst wird, kann es sinnvoll sein, eine Verzögerungszeit (2 oder 3 Sekunden) einzustellen. Das heißt, der Alarm wird erst ausgelöst, wenn die Taste für 2 bzw. 3 Sekunden gedrückt wurde.

Vorsicht! Die Einstellung einer Verzögerungszeit ist nicht konform zu der Norm DIN VDE 0834. Eine Verzögerungszeit darf nur eingestellt werden, wenn Konformität zu der DIN VDE 0834 nicht erforderlich ist.

In begründeten Ausnahmefällen ist es möglich, die Tastenfunktion der Alarmtaste auszuschalten.

Hinweis! Die Alarmtaste ist nur aktiv, wenn die Anwesenheit im Raum eingeschaltet ist.

AW-Taste 1 / AW-Taste 2

In der Werkseinstellung sind beide AW-Tasten (AW = Anwesenheit) funktionsbereit. In Ausnahmefällen kann es sinnvoll sein, die Tastenfunktion dieser Tasten auszuschalten.

EN - Configuration Instructions

3. Entering of optional settings

The remaining menu items provide optional settings. Set these if required. Examples:

Fault tone volume soft, medium, loud or off

WARNING! The tone that attracts attention for a fault may only be turned off, if it is made sure, that the attention is attracted in another way.

1. Mark “Fault Tone” using the arrow keys. Then press the circle key.
2. Mark “Soft”, “Medium”, “Loud” or “Off” using the arrow keys.
3. Press the circle key to set the selection.

Setting the key function

CAUTION! Switched off keys are not available for nursing staff!

Alarm Key

With the factory settings the alarm key on the ComStation^{CT} is operational and is initiated by pressing it.

If there is the risk, that the alarm button is initiated inadvertently, it might make sense to set a delay time (2 or 3 seconds). In that case the alarm will be initiated after the alarm key has been pressed and then hold for 2 or 3 seconds.

CAUTION! Setting a delay time does not comply with the German standard DIN VDE 0834. A delay time may only be set, where compliance with the DIN VDE 0834 is not required.

In well-founded exceptional cases you can switch of the alarm key function.

NOTE! Die Alarm Key is only active while the staff presence is switched on in the room.

Presence Key 1 / Presence Key 2

With the factory settings the presence keys are operational. In exceptional cases it may be useful to switch of the key function for these keys.

DE - Konfigurationsanleitung

4. Zimmerbus RAN prüfen

Status

Prüfung, ob die eingestellte RAN-Anzahl (siehe Abschnitt „RAN-Anzahl einstellen“) mit der Anzahl funktionsbereiter Zimmergeräte übereinstimmt.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Status“ markieren; dann Kreistaste drücken.

Anzeige: **OK**: Die eingestellte RAN Anzahl ist gleich der Anzahl funktionsbereiter Zimmergeräte.

Anzeige: **Error** (Fehler): Die eingestellte RAN Anzahl ist nicht gleich der Anzahl funktionsbereiter Zimmergeräte.

3. Zum Verlassen der Anzeige Haustaste drücken. Bei Fehler (Error) „Test RAN” durchführen.

Test RAN

Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Test starten: Mit den Pfeiltasten „Test RAN“ markieren; dann Kreistaste drücken.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.

3. Prüfen, ob die Anzahl blinkender Zimmergeräte gleich der eingestellten RAN Anzahl ist. Falls eingestellte RAN-Anzahl falsch ist, diese nach dem RAN Test wie im Abschnitt „RAN Anzahl einstellen“ beschrieben einstellen.
4. Test beenden: Haustaste drücken.

5. Konfigurationsmenü verlassen

Wenn alle Einstellungen vorgenommen sind und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen:

- Haustaste so oft drücken, bis die normale Betriebsanzeige angezeigt wird.

Hinweis! Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen.

EN - Configuration Instructions

4. Checking the room bus RAN

Status

Check whether the set RAN number (refer to section “Setting of RAN number”) equals to the number of operational room devices.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “Status” using the arrow keys. Then press the circle key.

Display: **OK**: The set RAN number is equal to the number of operational room devices.

Display: **Error**: The set RAN number is not equal to the number of operational room devices.

3. Press the home key to end. In case of an **error** perform a “Test RAN”.

Test RAN

Test if room devices are ready to operate and if they are correctly connected to the RAN.

Check the correct setting of the RAN number.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Test start: Mark “Test RAN” using the arrow keys. Then press the circle key.

The LEDs of all connected room devices must flash. Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.

3. Compare the number of flashing room devices with the set RAN number. If the set RAN number is wrong, correct the RAN number setting after the RAN test as described in section “Setting of RAN number”.
4. End of test: Press the home key.

5. Exit the configuration menu

When all settings are made and all tests are completed, you have to exit the configuration menu:

- Press home key several times until normal operation display appears.

NOTE! If for a period of three minutes no function key is pressed, the system will leave the configuration menu.

DE - Konfigurationsanleitung

ComStation^{T} Flamenco, Best.-Nr. 77 0606 20

Terminal ohne Sprechkommunikation, vorgesehen zur Tischaufstellung am Dienststützpunkt, inkl. roter Ruftaste, blauer Alarmtaste, grüner Anwesenheitstaste (AW1), gelber Anwesenheitstaste (AW2) und 4 Funktionstasten mit situationsabhängiger Belegung.

Hinweis! Die vollständige Installation der Rufanlage ist im Technischen Handbuch beschrieben.

Installation

1. Den Anschlussstecker [2] der ComStation^{T} Flamenco [1] an die Steckvorrichtung ComStation [3] anschließen.
2. Die beiden Schrauben des Anschlusssteckers [2] festdrehen, um den Stecker gegen unbeabsichtigtes Abziehen zu sichern.

EN - Configuration Instructions

ComStation^{T} Flamenco, order no. 77 0606 20

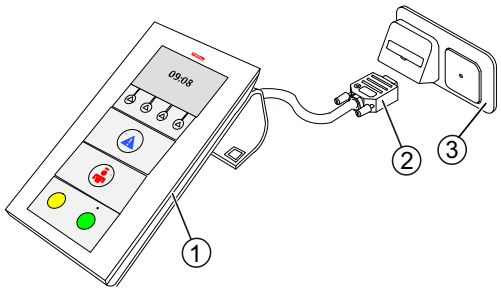
Terminal without speech communication, designed for desktop installation in the nurse station, incl. red Call Key, blue Alarm Key, green Presence Key (staff 1), yellow Presence Key (staff 2), and 4 Function Keys as soft keys.

NOTE! The complete installation of the nurse call system is described in the Technical Manual.

Installation

1. Connect the connection plug [2] of the ComStation^{T} Flamenco [1] to the connection socket ComStation [3].
2. Tighten the two screws of the connection plug [2], to protect the connection plug against unintentional disconnection.

Installation



1 - ComStation^{T} Flamenco
2 - Anschlussstecker
3 - * Steckvorrichtung ComStation

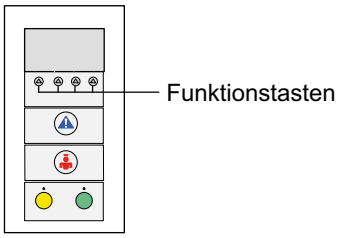
* Nicht im Lieferumfang der ComStation^{T} enthalten.

1 - ComStation^{T} Flamenco
2 - Connection plug
3 - * Connection socket ComStation

* Not included with ComStation^{T} delivery

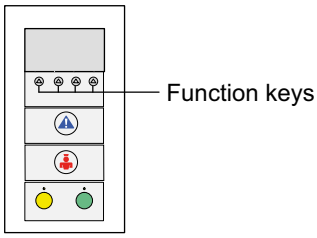
1. Konfigurationsmenü starten

- Funktionstaste ganz links und Funktionstaste ganz rechts gleichzeitig so lange (3 Sek.) gedrückt halten, bis das Konfigurationsmenü im Display erscheint.



1. Start configuration menu

- Press the left and right function keys simultaneously (3 sec.) until the configuration menu is shown in the display.



Symbole im Konfigurationsmenü

●	Kreistaste	Markierten Menüpunkt einstellen.
▲	Pfeiltaste nach oben	In der Liste nach oben wandern.
▼	Pfeiltaste nach unten	In der Liste nach unten wandern.
⌂	Haustaste	Abbrechen, ohne zu speichern.

Symbols in the configuration menu

●	Circle key	Set the marked menu item.
▲	Upwards arrow key	Scroll upwards through the list.
▼	Downwards arrow key	Scroll downwards through the list.
⌂	Home key	Cancel, without storing.

DE - Konfigurationsanleitung

Menüpunkte

Sprache:	Sprache der Displaytexte einstellen.
RAN > RAN Anzahl:	Anzahl Zimmergeräte (= RAN Anzahl) einstellen.
RAN > Test RAN:	Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.
RAN > Status:	Prüfung, ob eingestellte RAN Anzahl mit Anzahl funktionsbereiter Zimmergeräte übereinstimmt.
Adresse:	Zimmer-Adresse einstellen.
Kontrast:	Nur für Tunstall-Techniker.
Tastenton:	Ton bei Drücken der Tasten an der ComStation^{T} ein- oder ausschalten. „Tastenton EIN“ (Werkseinstellung) wird empfohlen.
Störungston:	Lautstärke des Tons beim Auftreten einer Störung einstellen.
Info:	Revision der Software in der ComStation^{T} anzeigen lassen.
Reset:	Verwendung nur durch Tunstall-Techniker. (ComStation^{T} neu starten)

2. Zwingend erforderliche Einstellungen

Sprache einstellen

1. Mit den Pfeiltasten „Sprache“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Sprache markieren: D = Deutsch, GB = Englisch usw.
3. Kreistaste drücken, um die Auswahl einzustellen.

RAN-Anzahl einstellen (0 – 30)

RAN Anzahl = Anzahl Zimmergeräte (Taster, Steckvorrichtungen, Zimmerleuchten etc.), die über RAN angeschlossen sind (**Kein** Birntaster).

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „RAN Anzahl“ markieren; dann Kreistaste drücken.
3. Mit den Pfeiltasten RAN-Anzahl des Zimmers markieren.
4. Kreistaste drücken, um die Auswahl einzustellen.

Zimmer-Adresse einstellen (0 – 110)

1. Mit den Pfeiltasten „Adresse“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten gewünschte Adresse markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

3. Optionale Einstellungen

Die übrigen Menüpunkte bieten optionale Einstellungen. Stellen Sie diese bei Bedarf ein. Beispiel:

Störungston leise, mittel, laut oder aus

Warnung! Der Ton, der auf Störungen aufmerksam macht, darf nur dann ausgeschaltet werden, wenn sichergestellt ist, dass Störungen auf andere Art sicher angezeigt werden.

1. Mit den Pfeiltasten „Störungston“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Leise“, „Mittel“, „Laut“ oder „Aus“ markieren.
3. Kreistaste drücken, um die Auswahl einzustellen.

EN - Configuration Instructions

Menu items

Language:	Selecting the user language.
RAN > RAN number:	Setting of number of room devices (= RAN number).
RAN > Test RAN:	Test if room devices are ready to operate and if they are correctly connected to the RAN.
RAN > Status:	Check whether the stored RAN number is equal to the number of operational room devices.
Address:	Setting of room address.
Contrast:	Function use only for Tunstall technicians.
Key sound:	Switching the key sound on or off. “Key sound ON” (factory setting) is recommended.
Fault tone:	Setting the fault tone volume.
Info:	Displaying the ComStation's software revision.
Reset:	Function use only for Tunstall technicians. (Restart the ComStation^{T}).

2. Entering of necessary settings

Selecting the user language

1. Mark “Language” using the arrow keys. Then press the circle key.
2. Mark the desired language using the arrow keys: D = German; GB = English etc.
3. Press the circle key to set the selection.

Setting of RAN number (0 – 30) (Room Area Network)

RAN number = Number of devices in the room (switches, connection sockets, room lamps, etc.) that are connected via RAN. (**No** pear push switch).

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “RAN number” using the arrow keys. Then press the circle key.
3. Mark the desired RAN number using the arrow keys.
4. Press the circle key to set the selection.

Setting of room address (0 – 110)

1. Mark “Address” using the arrow keys. Then press the circle key.
2. Mark the desired room address using the arrow keys.
3. Press the circle key to set the selection.

3. Entering of optional settings

The remaining menu items provide optional settings. Set these if required. Example:

Fault tone volume soft, medium, loud or off

WARNING! The tone that attracts attention for a fault may only be turned off, if it is made sure, that the attention is attracted in another way.

1. Mark “Fault Tone” using the arrow keys. Then press the circle key.
2. Mark “Soft”, “Medium”, “Loud” or “Off” using the arrow keys.
3. Press the circle key to set the selection.

DE - Konfigurationsanleitung

4. Zimmerbus RAN prüfen

Status

Prüfung, ob die eingestellte RAN-Anzahl (siehe Abschnitt „RAN-Anzahl einstellen“) mit der Anzahl funktionsbereiter Zimmergeräte übereinstimmt.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Mit den Pfeiltasten „Status“ markieren; dann Kreistaste drücken.

Anzeige: **OK**: Die eingestellte RAN Anzahl ist gleich der Anzahl funktionsbereiter Zimmergeräte.

Anzeige: **Error** (Fehler): Die eingestellte RAN Anzahl ist nicht gleich der Anzahl funktionsbereiter Zimmergeräte ist.

3. Zum Verlassen der Anzeige Haustaste drücken. Bei Fehler (Error) „Test RAN” durchführen.

Test RAN

Test, ob Zimmergeräte funktionsbereit und korrekt am RAN angeschlossen sind.

1. Mit den Pfeiltasten „RAN“ markieren; dann Kreistaste drücken.
2. Test starten: Mit den Pfeiltasten „Test RAN“ markieren; dann Kreistaste drücken.

Die LEDs aller angeschlossenen Zimmergeräte müssen blinken. Geräte, die nicht blinken, sind falsch angeschlossen oder defekt. Defekte Geräte austauschen. Falsch angeschlossene Geräte korrekt anschließen.

3. Prüfen, ob die Anzahl blinkender Zimmergeräte gleich der eingestellten RAN Anzahl ist. Falls eingestellte RAN-Anzahl falsch ist, diese nach dem RAN Test wie im Abschnitt „RAN Anzahl einstellen“ beschrieben einstellen.
4. Test beenden: Haustaste drücken.

5. Konfigurationsmenü verlassen

Wenn alle Einstellungen vorgenommen sind und alle Tests beendet sind, müssen Sie das Konfigurationsmenü verlassen:

- Haustaste so oft drücken, bis die normale Betriebsanzeige angezeigt wird.

Hinweis! Wenn drei Minuten keine Funktionstaste gedrückt wird, wird das Konfigurationsmenü automatisch verlassen.

EN - Configuration Instructions

4. Checking the room bus RAN

Status

Check whether the set RAN number (refer to section “Setting of RAN number”) equals to the number of operational room devices.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Mark “Status” using the arrow keys. Then press the circle key.

Display: **OK**: The set RAN number is equal to the number of operational room devices.

Display: **Error**: The set RAN number is not equal to the number of operational room devices.

3. Press the home key to end. In case of an **error** perform a “Test RAN”.

Test RAN

Test if room devices are ready to operate and if they are correctly connected to the RAN.

Check the correct setting of the RAN number.

1. Mark “RAN” using the arrow keys. Then press the circle key.
2. Test start: Mark “Test RAN” using the arrow keys. Then press the circle key.

The LEDs of all connected room devices must flash. Non-flashing devices are wrongly connected or defective. Replace defective devices. Correct any wrong connection.

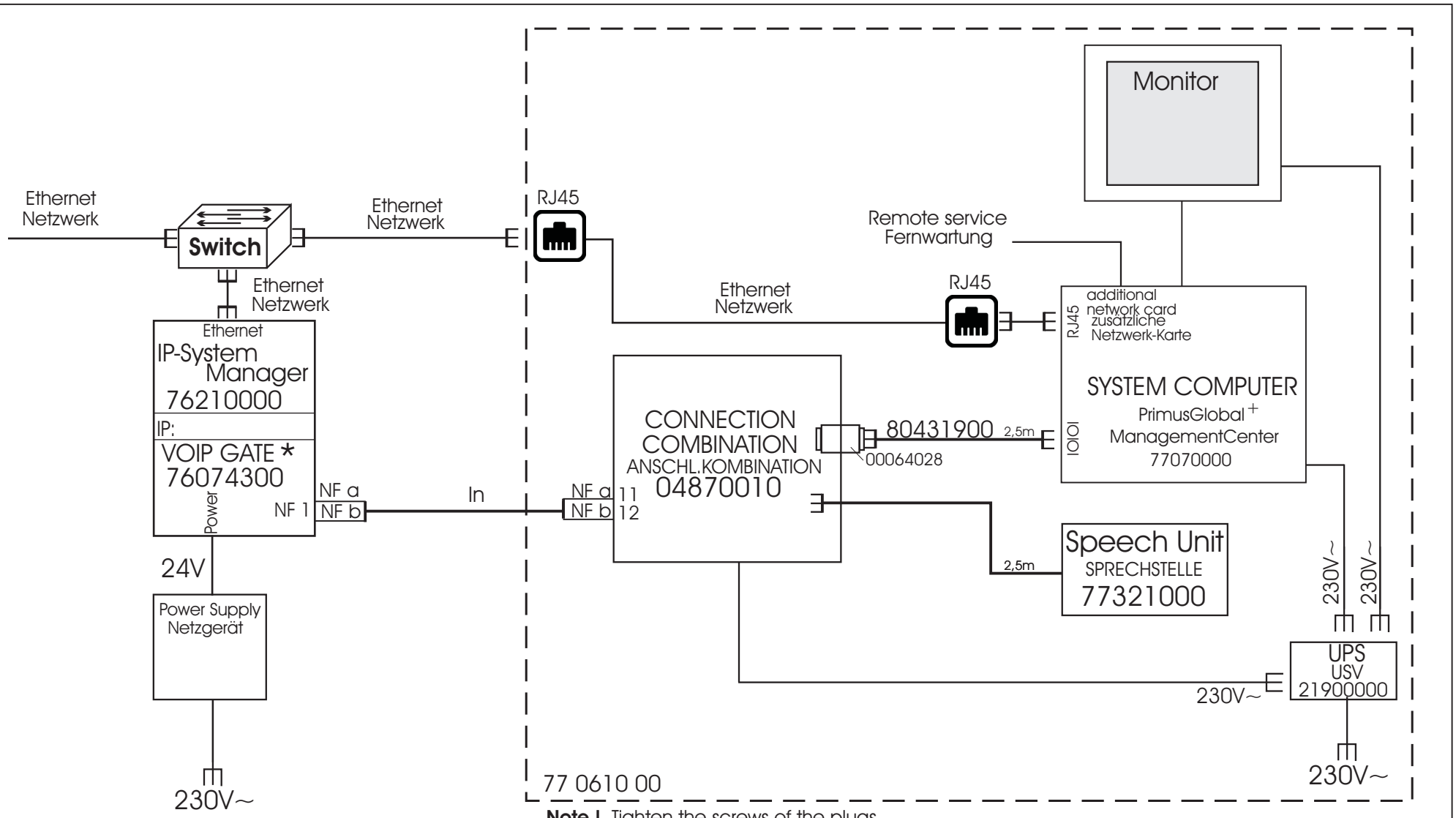
3. Compare the number of flashing room devices with the set RAN number. If the set RAN number is wrong, correct the RAN number setting after the RAN test as described in section “Setting of RAN number”.
4. End of test: Press the home key.

5. Exit the configuration menu

When all settings are made and all tests are completed, you have to exit the configuration menu:

- Press home key several times until normal operation display appears.

NOTE! If for a period of three minutes no function key is pressed, the system will leave the configuration menu.



Note ! Tighten the screws of the plugs
to protect the plugs against unintentional disconnection.

Hinweis ! Die Schrauben der Stecker festdrehen,
um die Stecker gegen unbeabsichtigtes Abziehen zu sichern.

In= IY(St)Y 2x2x0,8 Ø

* Software-Funktionsbaustein

TUNSTALL GmbH				CONNECTION PLAN ANSCHLUSSPLAN
Aend.-I.	Art der Aend.	Datum	Name	IP-SystemManager VOIP-Verbindung an ManagementCenter PC
Gez.		20.09.17	WENDKER	Order No.: / Best.-Nr.:
Gepr.		20.09.17	rm	Drawing No.: / Zeichn.Nr.: 97 1 1216 4 0 7

Installationsanleitung D

RAN-Schnittstelle Universal, Best.-Nr. 70 0848 00

Schnittstelle zur Ausgabe von Aktorsignalen in Verbindung mit Patientengerät PBK Hand, Best.-Nr. 74 0747 00 (ab Revision D1) und einer der folgenden Steckvorrichtungen:
70 0424 00 (ab Revision H1), 70 0424 50 (ab Revision C1),
70 0434 00 (ab Revision I1), 70 0434 50 (ab Revision B1).

Die Revisionsnr. ist auf dem Geräteetikett hinter der Bestell.-Nr. angegeben.

Die RAN-Schnittstelle Universal liefert Schaltausgänge zur Steuerung von Aktoren z.B. einer Jalousiesteuerung.

Hinweis! Dieser RAN-Teilnehmer darf nicht am Raumterminal (z.B. ComTerminal) angemeldet werden. Wenn eine RAN-Schnittstelle Universal installiert wird, ändern Sie die Anzahl der RAN-Teilnehmer am Raumterminal nicht.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Vorsicht! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

C Bettennummer einstellen (wenn erforderlich)

In der Werkseinstellung der RAN-Schnittstelle Universal können die angeschlossenen Aktoren (z.B. Jalousiesteuerung) von allen Betten aktiviert werden. Wenn die Aktoren nur von einem Bett gesteuert werden sollen, muss die Bettennummer per Jumper auf der Rückseite der Leiterplatte eingestellt werden:

1. Gehäuse an einer Seite aufschrauben.
2. Leiterplatte herausziehen.
3. Jumper P1, P2, P3 entsprechend Abb. **C** einstellen.

D Montage

Montage auf 35 mm Hutschiene. Hierzu mit dem Kunststoff-Rastelement der RAN-Schnittstelle auf der Hutschiene einrasten.

Installation Instructions GB

RAN interface universal, order no. 70 0848 00

Interface for output of actuator signals in connection with patient handset, order no. 74 0747 00 (as of revision D1) and one of the following connection sockets:
70 0424 00 (as of revision H1), 70 0424 50 (as of revision C1),
70 0434 00 (as of revision I1), 70 0434 50 (as of revision B1).

The revision no. is written on the product label behind the order number.

The RAN interface universal provides switching outputs for controlling actuators, such as a blinds control system.

Note! This RAN user has not to be registered at the room terminal (e.g. ComTerminal). If a RAN interface universal is installed, do not change the RAN number at the room terminal.

Note! The complete installation of the system is described in the technical manual.

Caution! The printed circuit board includes electrostatic sensitive components. Avoid touching.

C Setting bed number (if required)

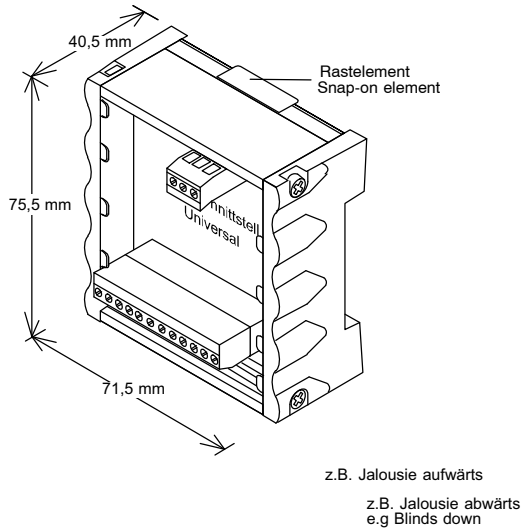
In the factory setting the connected acuators (e.g. blinds control system) can be activated from all beds. If the actuators shall be controlled by one bed only, the bed number has to be set using the jumpers on the backside of the PCB.

1. Unscrew one casing cover.
2. Pull out the PCB.
3. Set jumpers P1, P2, P3 according to figure **C**.

D Mounting

Mounting on 35 mm supporting rail by using the snap-on element on the backside of the RAN interface.

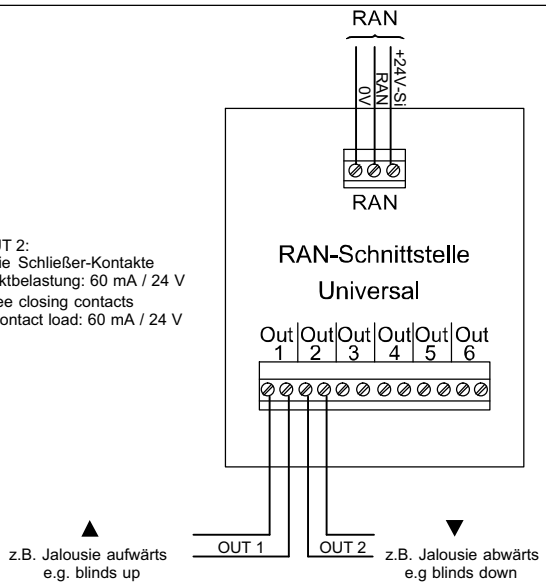
A



z.B. Jalousie aufwärts

z.B. Jalousie abwärts
e.g Blinds down

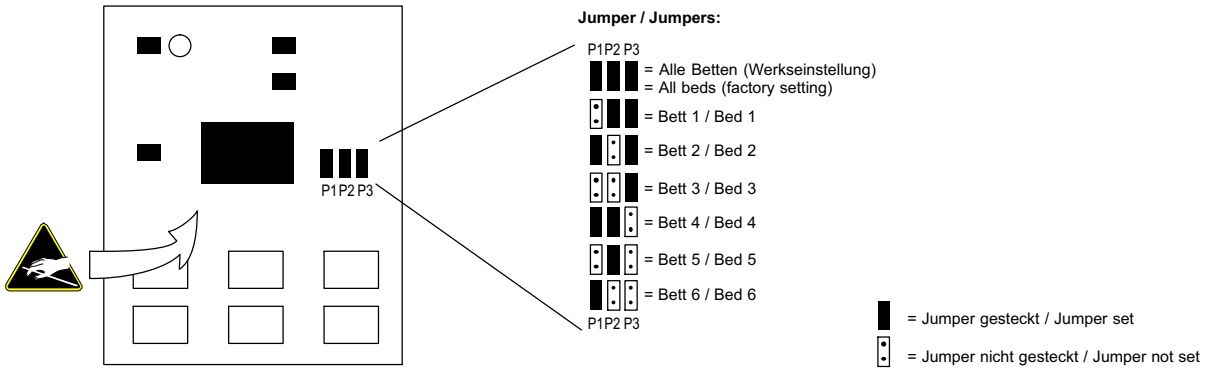
B



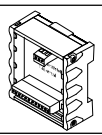
z.B. Jalousie aufwärts
e.g. blinds up

z.B. Jalousie abwärts
e.g blinds down

C



70 0848 00
RAN-Schnittstelle Universal
RAN interface universal



DE - Installationsanleitung

RAN-Schnittstelle, Best.-Nr. 77 0840 00

Die RAN-Schnittstelle dient zum Anschluss von externen Geräten an den Zimmerbus (RAN). Mögliche Anwendungen:

- Ein externes Rufgerät löst die Rufart „Ruf“ aus.
- Ein externes Rufgerät löst die Rufart „Alarm“ aus.
- Ein externes Rufgerät löst die Rufart „WC-Ruf“ aus.
- Ein externer Anwesenheitsmelder schaltet die Anwesenheit 1.
- Ein Telefonanruf löst die Rufart „Telefonruf“ aus.
- TV-Gerät wird über PBK Hand gesteuert.

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Achtung! Führen Sie die Installation nur im spannungsfreien Zustand aus. Sonst könnte die RAN-Schnittstelle beschädigt werden.

A Montage

Die RAN-Schnittstelle [1] mit den Klebepads [5] auf den Hutschienenclip [4] aufkleben und dann auf eine Hutschiene aufklipsen, siehe Abb. **A**.

EN - Installation Instructions

RAN interface, order no. 77 0840 00

The RAN interface is intended for the connection of a third-party device to the room bus (RAN). Available applications:

- An external call device raises the call type “call“.
- An external call device raises the call type “cardiac alarm“.
- An external call device raises the call type “WC call“.
- An external presence switch for staff presence 1.
- A telephone call raises the call type “telephone call“.
- Patient TV sets are controlled using a patient handset.

NOTE! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board includes electrostatic sensitive components. Avoid touching.

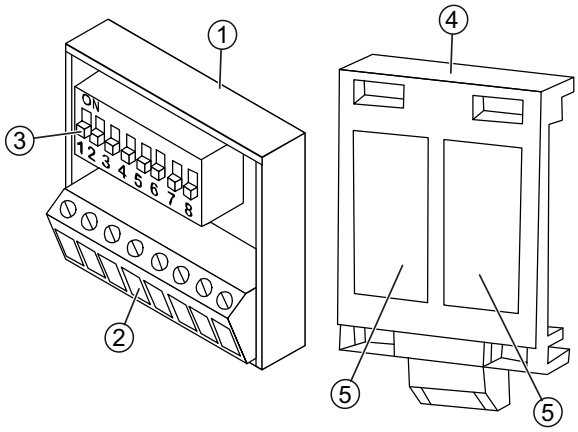
CAUTION! During installation the power supply should be switched off to ensure zero-potential status. Otherwise, the RAN interface could be damaged.

A Mounting

Fix the RAN interface [1] with the adhesive pads [5] to the top-hat rail clip [4]. Then clip it to the top-hat rail. See Fig. **A**.

A

1 - RAN-Schnittstelle
2 - Anschlussklemme
3 - DIP-Schalter
4 - Hutschienenclip
5 - Klebepads



1 - RAN interface
2 - Connector
3 - DIP switch
4 - Top-hat rail clip
5 - Adhesive pads

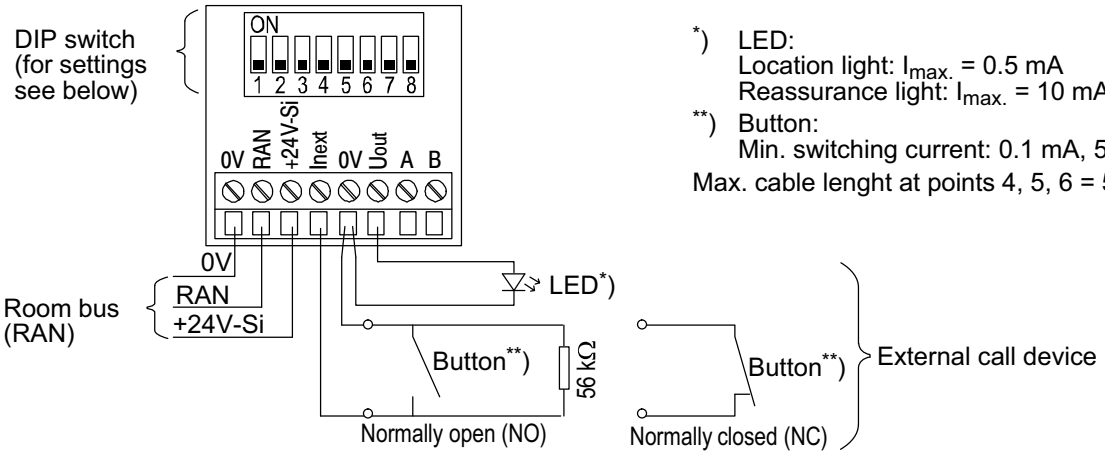
Technische Daten

Nennspannung	24 V DC
Ruhestromaufnahme	8 mA
Anschlussquerschnitt	0,14 – 0,5 mm²
Abisolierlänge	4,5 mm
Abmessungen (HxBxT)	32 x 34 x 16 mm (ohne Hutschienenclip)
Schutzart	IP 20
Umgebungstemperatur	+5 °C – +40 °C
Relative Luftfeuchtigkeit	0 % – 85 %

Technical data

Nominal voltage	24 V DC
Standby current consumption	8 mA
Connection cross section	0.14 – 0.5 mm²
Skinning length	4.5 mm
Dimensions (HxWxD)	32 x 34 x 16 mm (without top-hat rail clip)
Degree of protection	IP 20
Ambient temperature	+5 °C – +40 °C
Relative humidity	0 % – 85 %

B Application: An external call device raises the call type “call“.
Application: An external call device raises the call type “cardiac alarm“.



*) LED:
Location light: $I_{max.}$ = 0.5 mA
Reassurance light: $I_{max.}$ = 10 mA

**) Button:
Min. switching current: 0.1 mA, 5 V DC

Max. cable lenght at points 4, 5, 6 = 5 m

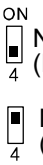
DIP switch 1–3:

Bed number:

No bed (i.e. room call)
Bed 1
Bed 2
Bed 3
Bed 4
Bed 5
Bed 6

DIP switch 4:

Button contact type:

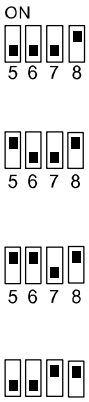


Normally closed (NC)

Normally open (NO)

DIP switch 5–8:

Button function:



Call type “call“
The call is cancelled in the nurse call system.

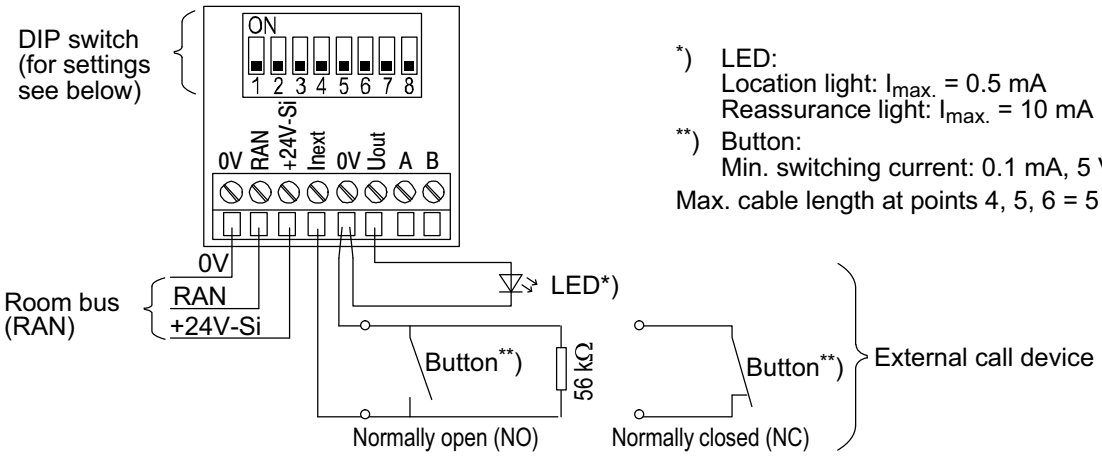
Call type “call“
The call is cancelled automatically, as soon as the call device is reset.

Call type “cardiac alarm“
The cardiac alarm is cancelled in the nurse call system.

Call type “cardiac alarm“
The cardiac alarm is cancelled automatically, as soon as the call device is reset.

The location light is on with a weak light. When a call is raised, it is on with a bright light as a reassurance light.

C Application: An external call device raises the call type “WC call“.

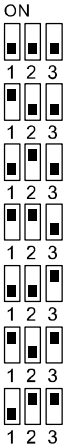


*) LED:
Location light: $I_{max.}$ = 0.5 mA
Reassurance light: $I_{max.}$ = 10 mA

**) Button:
Min. switching current: 0.1 mA, 5 V DC

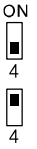
Max. cable length at points 4, 5, 6 = 5 m

DIP switch 1–3:
Channel number***):



Channel 0
Channel 1
Channel 2
Channel 3
Channel 4
Channel 5
Channel 6

DIP switch 4:
Button contact type:



Normally closed (NC)

Normally open (NO)

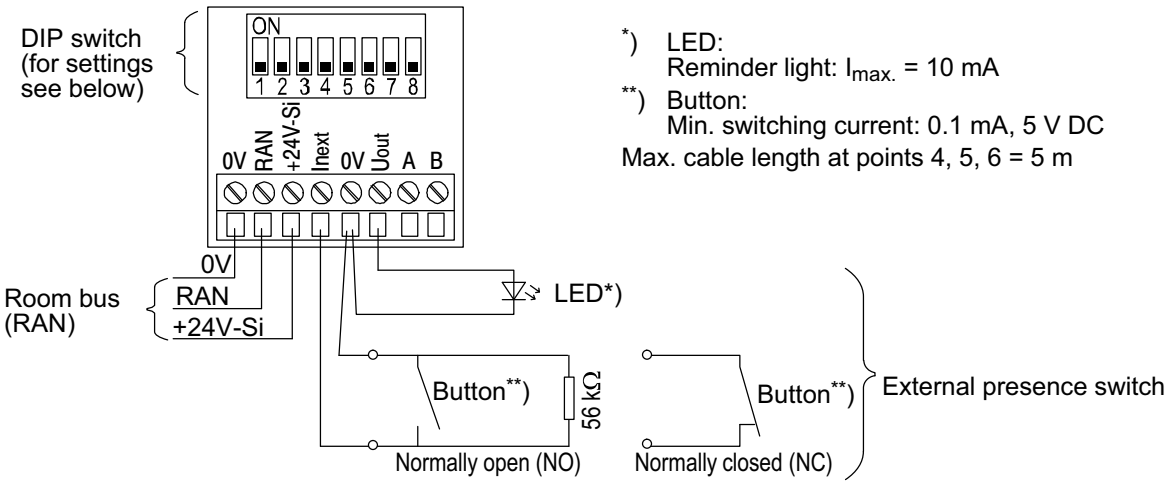
DIP switch 5–8:
Button function:

Call type “WC call“
The WC call is cancelled in the nurse call system.

***) If functional units are requested, the call devices have to be assigned to different channels. Refer to your installation plan to find out, whether channel numbers have to be assigned.

The location light is on with a weak light. When a call is raised, it is on with a bright light as a reassurance light.

D Application: An external presence switch for switching staff presence 1 on and off.

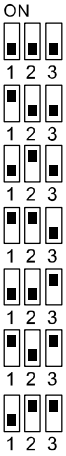


*) LED:
Reminder light: $I_{max.}$ = 10 mA

**) Button:
Min. switching current: 0.1 mA, 5 V DC

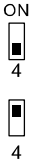
Max. cable length at points 4, 5, 6 = 5 m

DIP switch 1–3:
Channel No.***):



Channel 0
Channel 1
Channel 2
Channel 3
Channel 4
Channel 5
Channel 6

DIP switch 4:
Button contact type:



Normally closed (NC)

Normally open (NO)

DIP switch 5–8:
Button function:

Presence 1

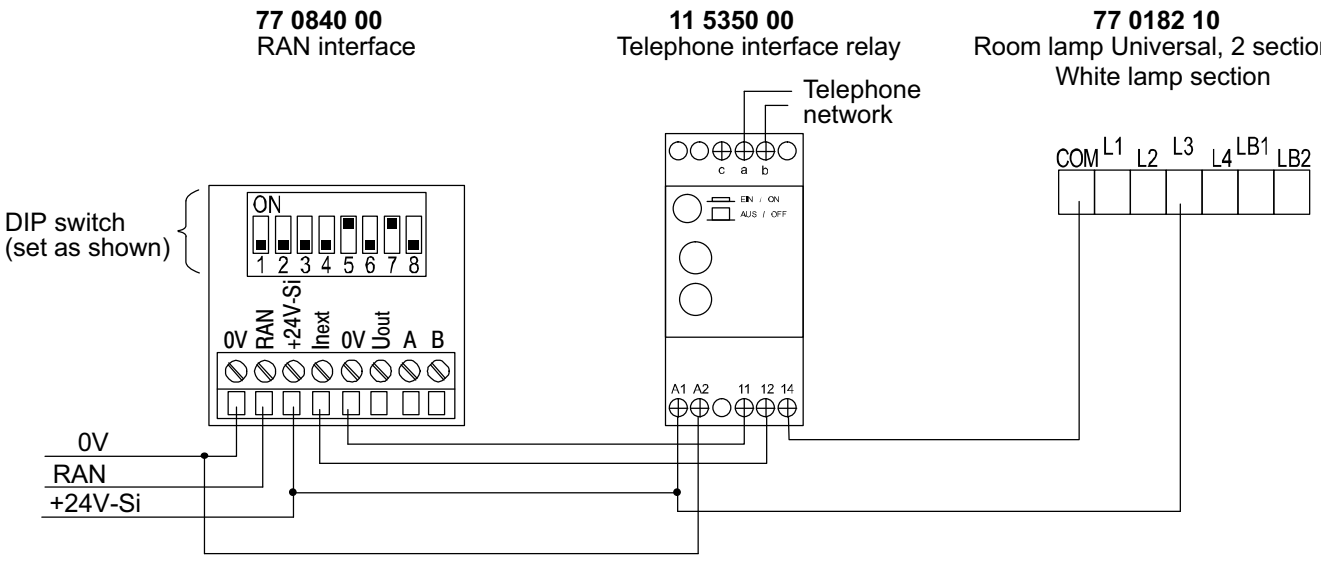
***) If functional units are requested, the presence switches have to be assigned to different channels. Refer to your installation plan to find out, whether channel numbers have to be assigned.

E Application: A telephone call raises the call type “telephone call“.

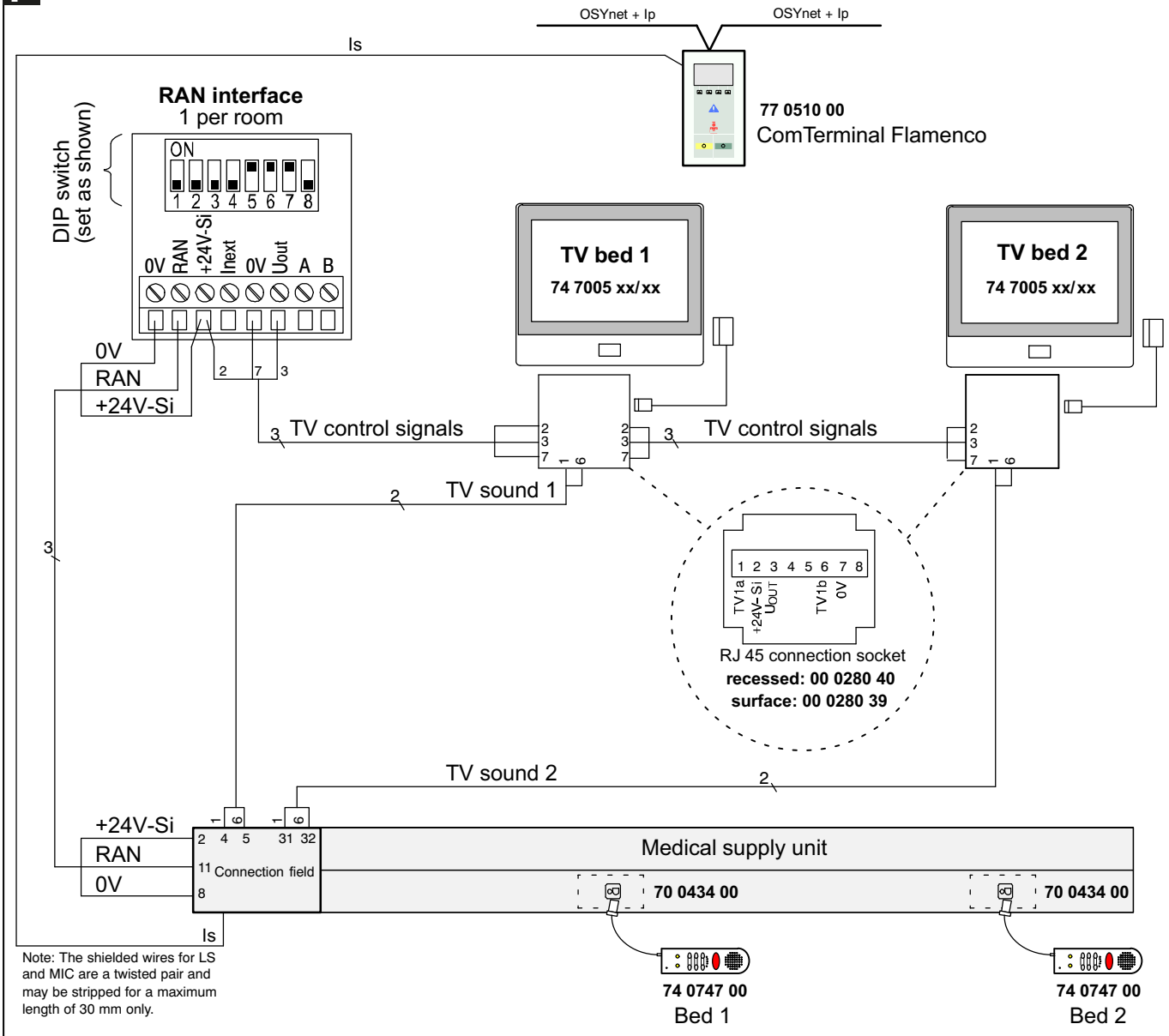
77 0840 00
RAN interface

11 5350 00
Telephone interface relay

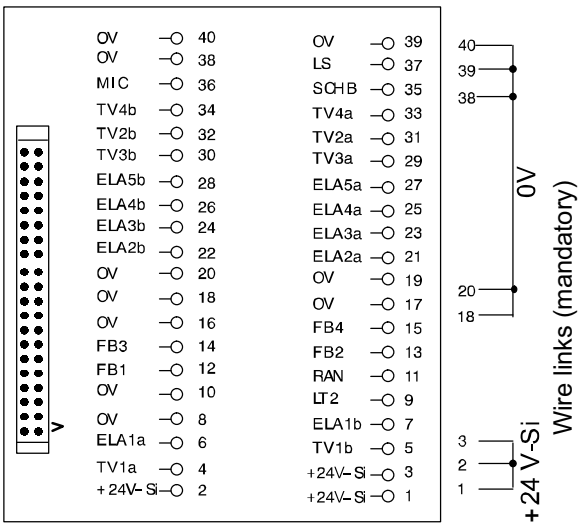
77 0182 10
Room lamp Universal, 2 sections
White lamp section



F Application: Patient TV sets are controlled using a patient handset.



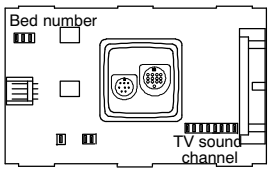
Connection field medical supply unit



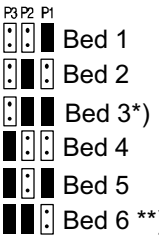
Terminal numbers as flat cable

Bed no. and TV sound channel

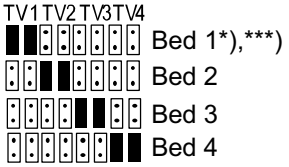
You have to set the bed number and the TV sound channel by setting jumpers on the connection socket (70 0434 00):



Bed number:



TV sound channel:



*) Factory setting.
**) When using bed 6 no diagnostic call can be used.
***) If the same TV sound shall be transmitted to all beds, you have to set Bed 1 (TV1).

RAN-Schnittstelle mit Sprechen, Best.-Nr. 77 0880 00, Installationsanleitung — Deutsch

Die RAN-Schnittstelle mit Sprechen dient zum Anschluss eines Patientenbediengeräts eines Fremdsystems mit Ruf-Funktion und Sprechverbindung an den Zimmerbus (RAN).

Verwendung eines Patientenbediengeräts nur nach Freigabe durch Tunstall GmbH.

Abmessungen (HxBxT): 13 x 51 x 95 mm (ohne Befestigungsclips)

Gewicht: 28 g (ohne Befestigungsclips)

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Vorsicht! Elektrostatisch gefährdete Bauteile

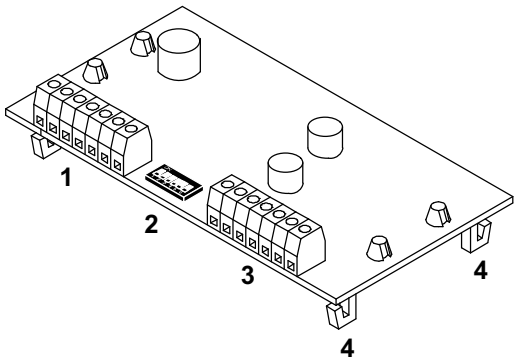
Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

Vorsicht! Führen Sie die Installation nur im spannungsfreien Zustand aus. Sonst könnte die RAN-Schnittstelle beschädigt werden.

Montage

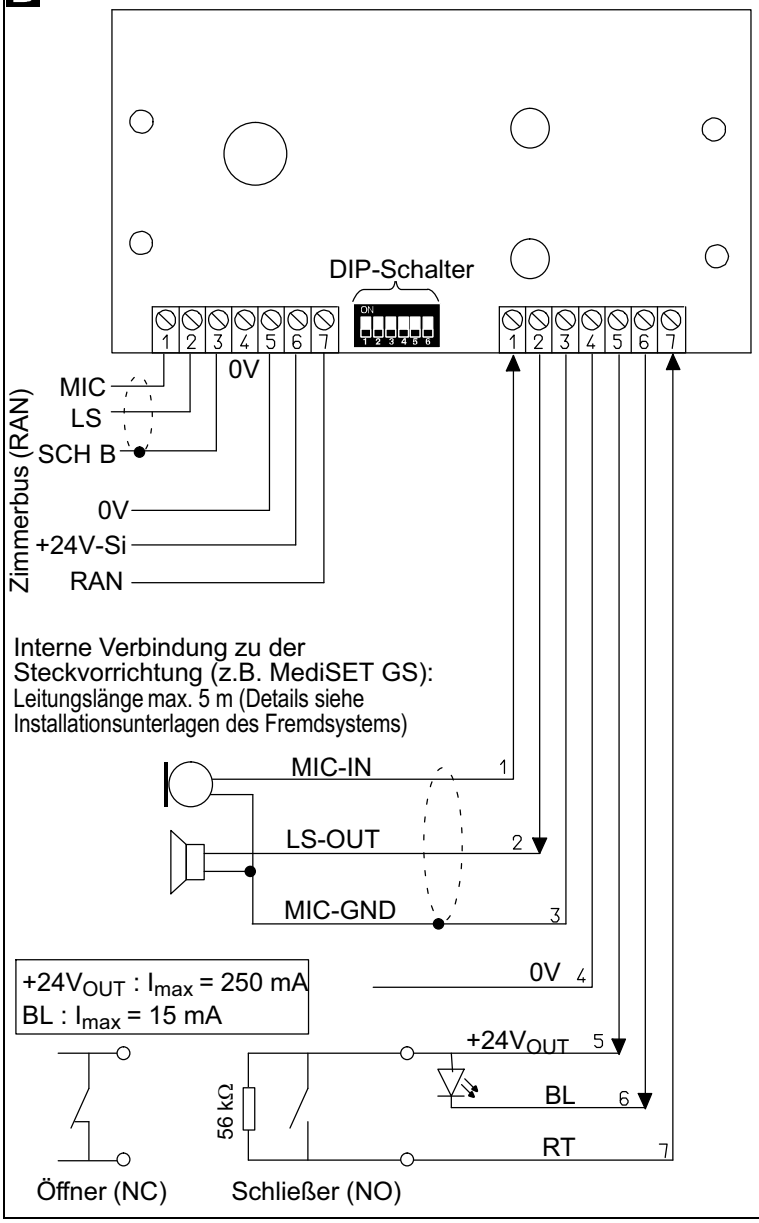
Die RAN-Schnittstelle mit den beiden Befestigungsclips auf eine Hutschiene aufklipsen, die sich z.B. in der medizinischen Versorgungseinheit befindet, siehe Abb. **A**.

A RAN-Schnittstelle mit Sprechen

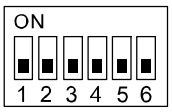


1 Anschlussklemme für Zimmerbus (RAN)
2 DIP-Schalter
3 Anschlussklemme für Fremdsystem
4 Zwei Befestigungsclips für Montage auf eine Hutschiene

B Anschlüsse

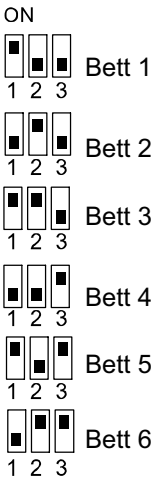


C DIP-Schalter einstellen



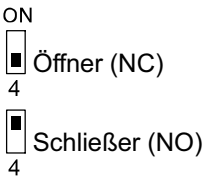
DIP-Schalter 1–3:

Bett-Nummer einstellen:

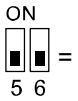


DIP-Schalter 4:

Kontaktart der angeschlossenen Ruftaste:



DIP-Schalter 5–6:



Achtung! Ein Schließerkontakt (NO) kann fest oder über einen Stecker angeschlossen werden. Ein Öffnerkontakt (NC) muss fest angeschlossen werden.

CE

RAN interface with speech, Order No. 77 0880 00, Installation Instructions — English

The RAN interface with speech is intended for the connection of a third-party patient unit with call function and speech connection to the room bus (RAN).

A third-party patient unit model can be used only after approval by Tunstall GmbH.

Dimensions (HxWxD): 13 x 51 x 95 mm (without fixing clips)

Weight: 28 g (without fixing clips)

Note! The complete installation of the system is described in the Technical Manual.

Caution! Electrostatic sensitive components

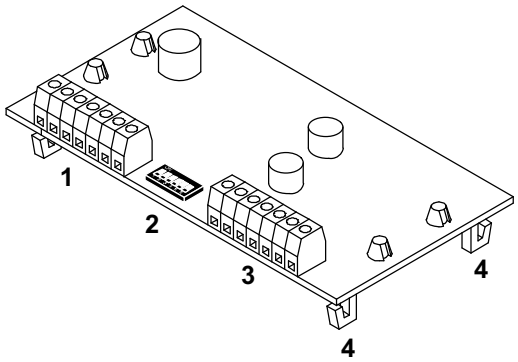
The printed circuit board contains components at risk from electrostatic charges. Therefore, avoid touching it.

Caution! During installation the power supply should be switched off to ensure zero-potential status. Otherwise, the RAN interface could be damaged.

Mounting

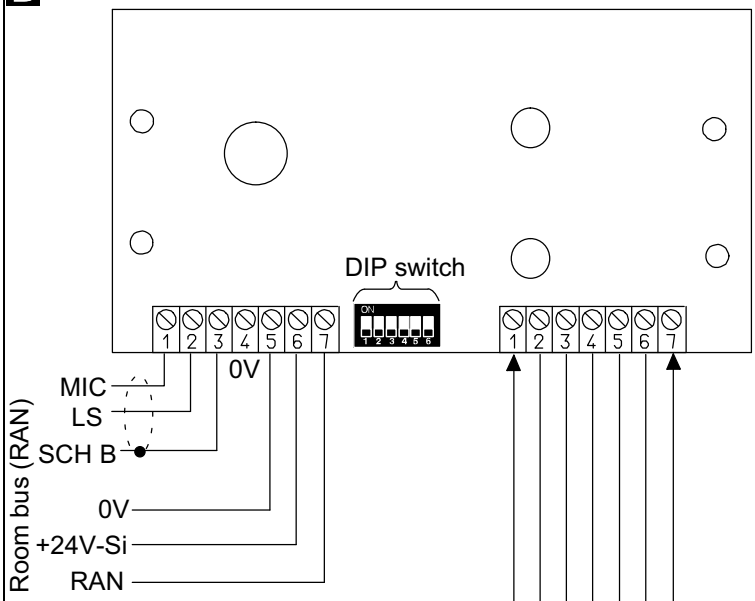
Clip the RAN interface with both fixing clips onto a top-hat rail, e.g. in the medical supply unit, see Fig **A**.

A RAN interface with speech

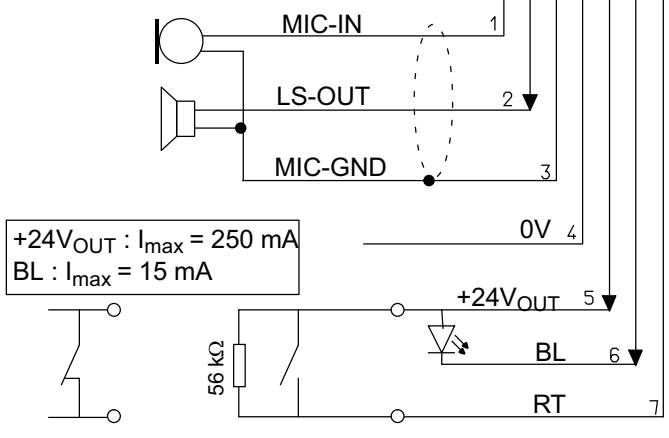


1 Connector for room bus (RAN)
2 DIP switch
3 Connector for third-party system
4 Two fixing clips for mounting on a top-hat rail

B Connections



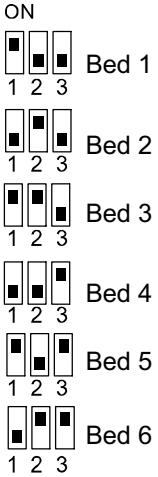
Internal connection to the connection socket (e.g. MediSET GS):
Maximum cable length: 5 m (for details refer to the installation instructions of the manufacturer).



C Setting the DIP switch

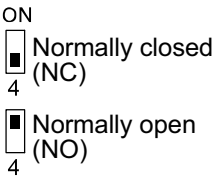
DIP switch 1–3:

Setting the bed number:

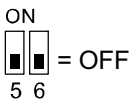


DIP switch:

Contact type of the connected call button:



DIP switch 5–6:



Attention! A normally open contact (NO) can be hard-wired or plug connected. A normally closed contact (NC) has to be hard-wired. A plug connection is not allowed.

CE

Interface RAN avec phonie, référence 77 0880 00, Mode d'installation

Français

Interface pour le branchement d'un terminal de patient d'un système externe avec fonction d'appel et phonie au bus de chambre (RAN).

Utilisation d'un terminal de patient d'un système externe seulement après autorisation par Tunstall GmbH.

Dimensions (HxLxP): 13 x 51 x 95 mm (sans clips de fixation)

Poids: 28 g (sans clips de fixation)

Remarque! L'installation complète du système est décrite dans le manuel technique.

Attention! Pièces à risque électrostatique

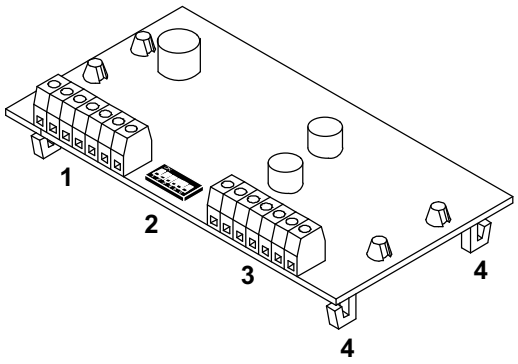
Le circuit imprimé est équipé de pièces à risque électrostatique. Veiller à éviter le contact direct.

Attention! Mettre hors tension avant de procéder au raccordement électrique. Sinon, l'interface RAN pourrait être endommagée.

Montage

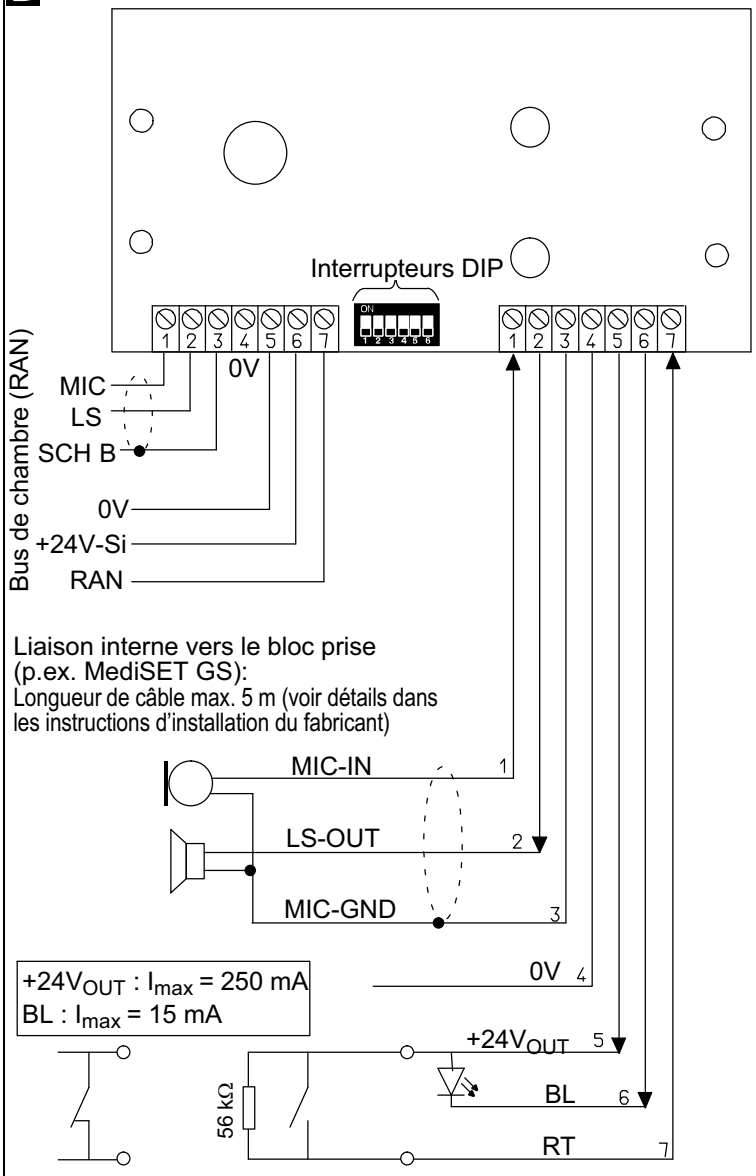
Mounter l'interface RAN avec les deux clips de fixation **4** sur un rail DIN dans le gaine tête de lit, voir figure **A**.

A Interface RAN avec phonie

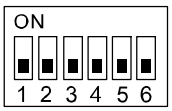


1 Bornier pour bus de chambre (RAN)
2 Interrupteurs DIP
3 Bornier pour le système externe
4 Deux clips de fixation pour montage sur un rail DIN

B Raccordement

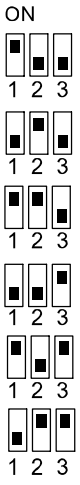


C Régler les interrupteurs DIP



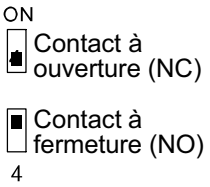
Interrupteurs DIP 1–3:

Régler le numéro du lit:

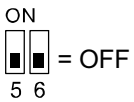


Interrupteurs DIP 4:

Type de contact du bouton d'appel raccordè:



Interrupteurs DIP 5–6:



Attention ! Le raccordement d'un contact à fermeture (NO) peut être fixe ou réalisé par fiche. Le raccordement d'un contact à ouverture (NC) faut être fixe.

CE

Installationsanleitung D

Telefonanschaltrelais, Best.-Nr. 11 5350 00
zur Anschaltung von analogen Telefonen an eine Rufanlage, zur Weiterleitung von Anrufen als Telefonruf.

- Rufspannung: 32 - 80 V AC
- Stromversorgung: 5 - 40 V
- EIN-/AUS-Schalter
- Schaltausgang: Wechselkontakt
- Rufpausenüberbrückung einstellbar
- Schaltdauer des Ausgangskontakts einstellbar

Abmessungen (HxBxT): 70 x 35 x 70 mm

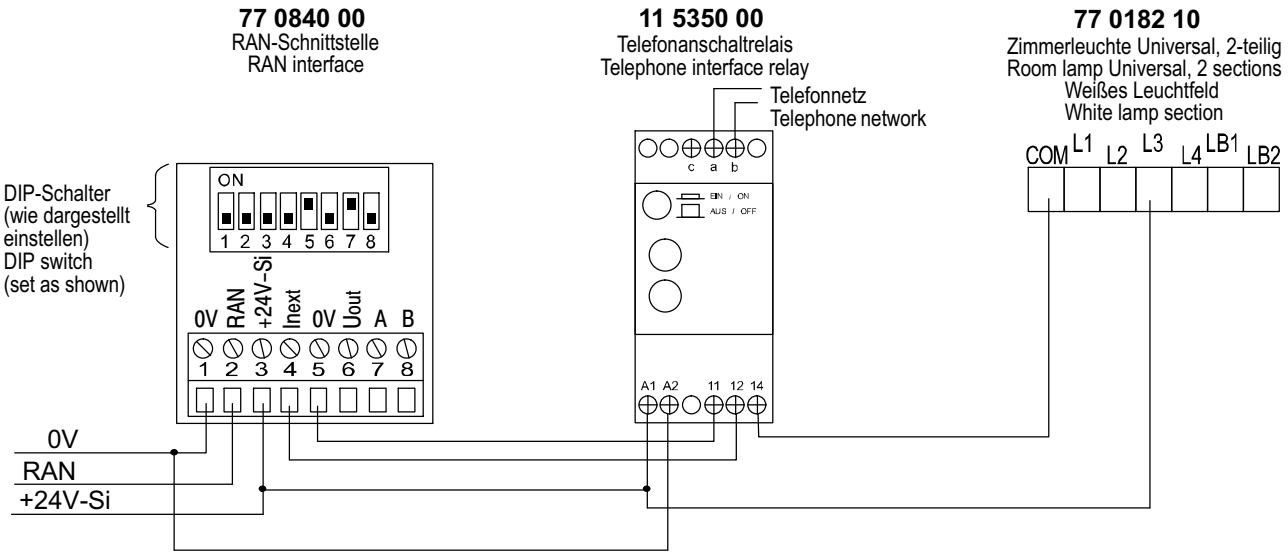
Montage auf 35 mm-Hutschiene

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

A Montage

1. Schalten Sie die Anlage spannungsfrei.
2. Setzen Sie das Telefonanschaltrelais auf die Hutschiene und lassen es einrasten.
3. Anschlüsse wie in der folgenden Abbildung gezeigt vornehmen.
4. Anlage wieder in Betrieb nehmen.
5. Schalten Sie das Telefonanschaltrelais ein, indem Sie den EIN/AUS-Schalter eindrücken.

Anschlüsse



B Potentiometer einstellen

Wenn das Telefonanschaltrelais eingeschaltet ist, wird der Schaltkontakt geschlossen, sobald die Telefonrufspannung anliegt. Wie lange der Schaltkontakt geschlossen bleibt, hängt davon ab, wie die beiden Potentiometer “Rufpausenüberbrückung“ und “Einschaltdauer“ eingestellt sind.

Rufpausenüberbrückung einstellen
Mit dem Potentiometer zur Rufpausenüberbrückung wird die Zeit festgelegt, die der Schaltkontakt länger geschlossen ist, als das Telefonanschaltrelais angesteuert wird. Der Einstellbereich ist linear geteilt und liegt zwischen 0 und 12 Sekunden. Ist die eingestellte Zeit größer als die Pause bei der Ansteuerung durch die Telefonrufspannung, so bedeutet dies, dass der Schaltkontakt ohne Unterbrechung geschlossen bleibt, bis die gesamte Ansteuerung abgebrochen wird (Ende des Rufes). Ist die eingestellte Zeit kleiner als die Ansteuerungspause, so ergibt sich die Schaltzeit des Kontaktes aus der Signalisierungszeit, verlängert um die eingestellte Überbrückungszeit.

Einschaltdauer einstellen
Mit dem Potentiometer für die Einschaltdauer kann die Zeit, in der der Schaltkontakt geschlossen ist, begrenzt werden. Der Einstellbereich ist nicht linear geteilt und liegt zwischen 0,25 und ca. 12 Sekunden. Wird das Potentiometer auf “Dauer“ gestellt, so bedeutet dies keine Begrenzung, d. h. der Schaltkontakt bleibt bis zum Ende der Ansteuerung geschlossen.

Installation Instructions GB

Telephone interface relay, order no. 11 5350 00
for connecting analogues telephones to a nurse call system. A telephone call will be displayed as a call in the nurse call system.

- Call voltage: 32 - 80 V AC
- Power supply: 5 - 40 V
- ON/OFF switch (ON = EIN, OFF = AUS)
- Output: N/C, N/O contact
- Bridging of call intervalls can be set
- Power-on time can be set.

Dimensions (HxWxD): 70 x 35 x 70 mm

Mounting on a 35 mm top hat rail.

Note! The complete installation of the system is described in the technical manual.

A Mounting

1. Power down the equipment.
2. Place the telephone interface relay on the top hat rail and click it into place.
3. Connect as shown in the diagram below.
4. Restart the equipment.
5. Switch on the telephone interface relay by pressing down the ON/OFF switch.

Connections

B Potentiometer Setting

When the telephone interface relay is operational, the switching contact is closed as soon as the telephone signal voltage is applied. It depends on the setting of the two potentiometers “bridging of call intervals“ and “power-on time” how long the switching contact remains closed.

Setting bridging of call intervals (“Rufpausenüberbrückung”)
The potentiometer for the bridging of call intervals sets the period the switching contact remains closed longer than the telephone interface relay is actuated. The setting range is linear and lies between 0 and 12 seconds. If the selected time is longer than the actuation intervals by the telephone call voltage the switching contact remains closed without interruption until the actuation stops (end of call). If the selected time is shorter than the actuation interval the switching time of the contact results from the signal period plus the selected bridging time.

Setting power-on time (“Einschaltdauer”)
The potentiometer for power-on time setting allows to limit the time the switching contact remains closed. The setting range is not linear and lies between 0.25 and about 12 seconds. If the potentiometer is set for permanent (“Dauer”) the switching contact is not limited and remains closed up to the end of actuation.

11 5350 00
Telefonanschaltrelais
Telephone interface relay

Installationsanleitung D

OSYlink-Türsprechstelle, Best.-Nr. 77 0801 00
Schnittstelle zum Anschluss einer Türsprechstelle, Bestell-Nr. 77 0350 00, an den Gruppenbus (OSYnet).

- 2-Draht-Anschluss zur Türsprechstelle (inkl. Daten und Sprache)
- Anschluss für Türöffner-Transformator 12 V AC
- Eingang zur lokalen Ruflöschung in Verbindung mit einem separaten Taster (Schließer nach 24 V)
- Max. Stromaufnahme: 380 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 wird durch Einschalten des Codierschalters 3 eingestellt.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Best.-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Door Entry Speaker, order no. 77 0801 00
Interface for connecting a door entry speaker, order no. 77 0350 00, to the group bus (OSYnet).

- 2-wire-connection to the door entry speaker (including data and speech)
- Connection for door opener transformer 12 V AC
- Input for local call cancelling in combination with a separate switch (N/O contact to 24 V)
- Max. current consumption: 380 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 is set by code switch 3. Address 24 is selected through addition, coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

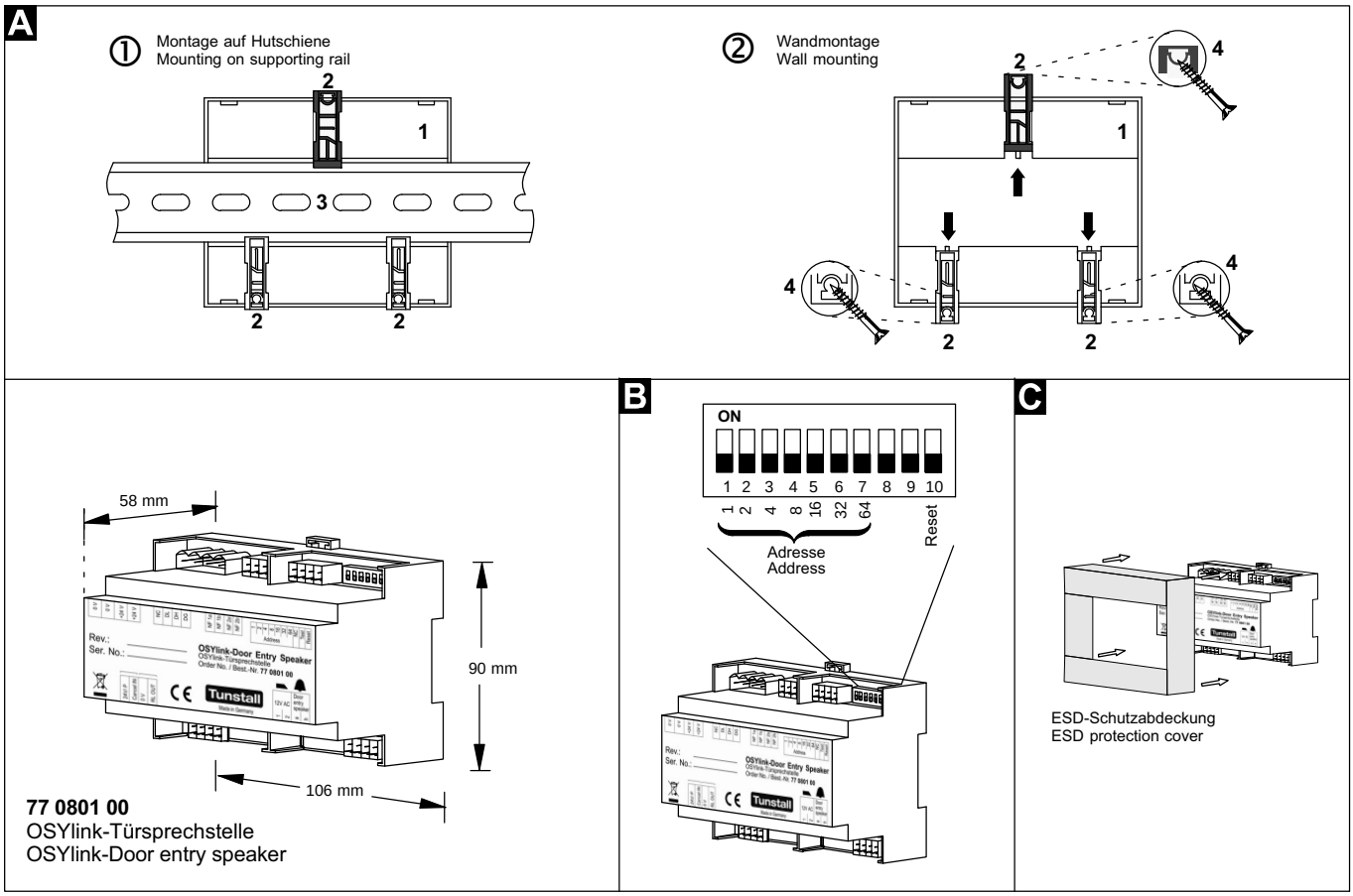
Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 53)

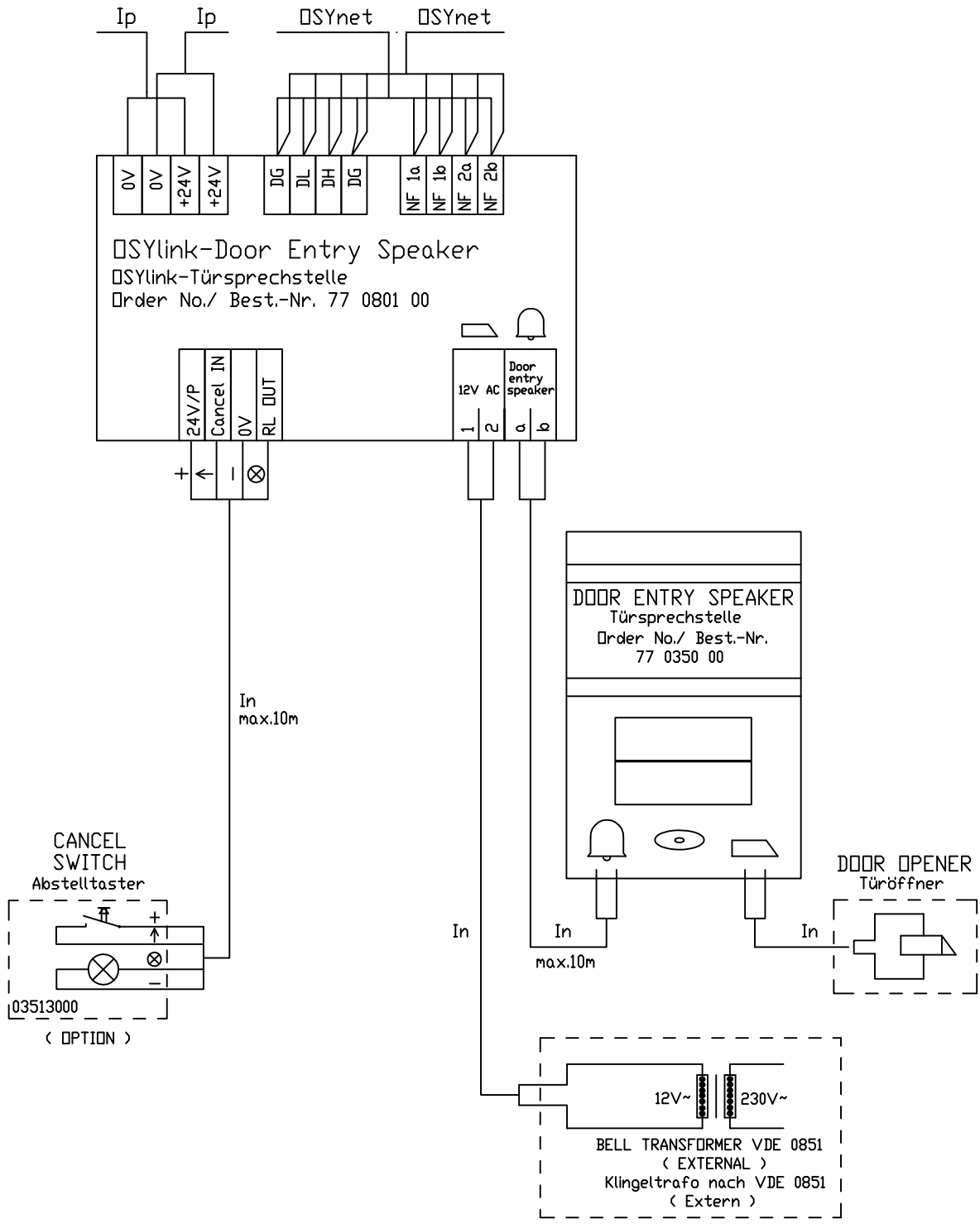
After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.



CE



In=IY(ST)Y2x2x0,8
Ip=NYM 2x2,5sqmm/qmm

TUNSTALL GmbH — CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name	SYlink-Door Entry Speaker SYlink Türsprechstelle	
Gez.		07.01.09	WENDKER	Order No.: / Best.Nr.:	Drawing No.: / Zeichn.Nr.:
Gepr.		07.01.09	HINKERODE	77 0801 00	74 1 0055 4 9 2

Installationsanleitung D

OSYlink-Gruppenleuchte, Best.-Nr. 77 0802 00
Schnittstelle zum Anschluss von Gruppenleuchten an den Gruppenbus (OSYnet). Einsetzbar als Sammel- oder Richtungsanzeige. Raumzuordnung und Bildung von Gruppen möglich.

- 4 x 2 potentialfreie Ausgänge zur Anschaltung von 4 Gruppenleuchten mit je 2 Leuchtfeldern
- Stromversorgung wählbar (Jumper) intern aus der Rufanlage oder extern
- Anzeige nach DIN VDE 0834, zentral konfigurierbar
- Zentrale, flexible Konfiguration der Blinkfolgen und Zuordnung der Teilnehmeradressen
- Max. Stromaufnahme: 26 mA + 60 mA je Ausgang

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Group lamp, order no. 77 0802 00
Interface for connecting group lamps to the group bus (OSYnet). Usable as collective or direction display. Room allocation and group forming possible.

- 4 x 2 potential-free outputs for connecting 4 group lamps, with two light sections each
- Power supply selectable (jumper) internal from the call system or external
- Display compliant with DIN VDE 0834, centrally configurable
- Central, flexible configuration of flash-signal sequences and allocation of user addresses
- Max. current consumption: 26 mA + 60 mA per output

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition, coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

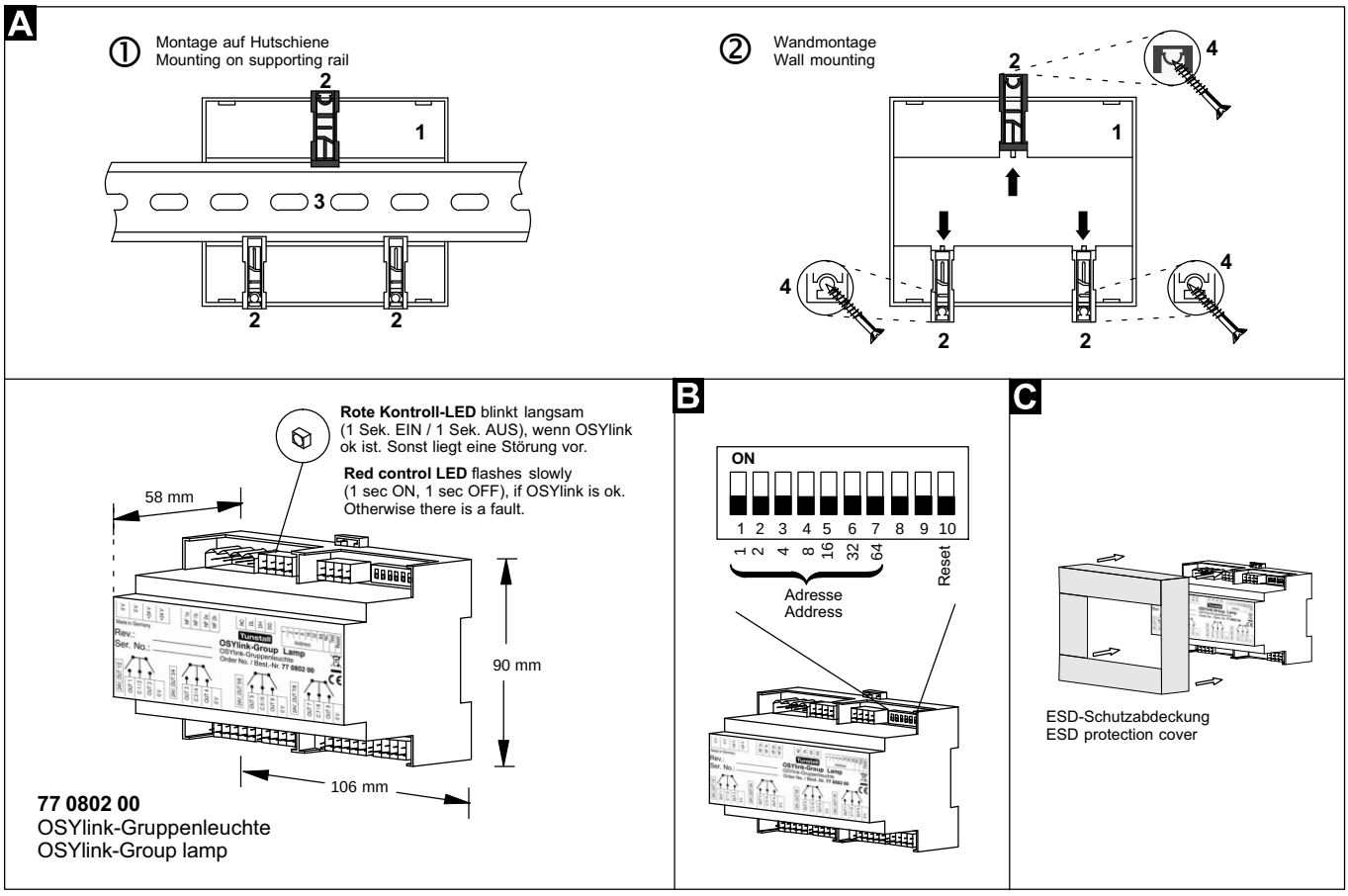
Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 276 53)

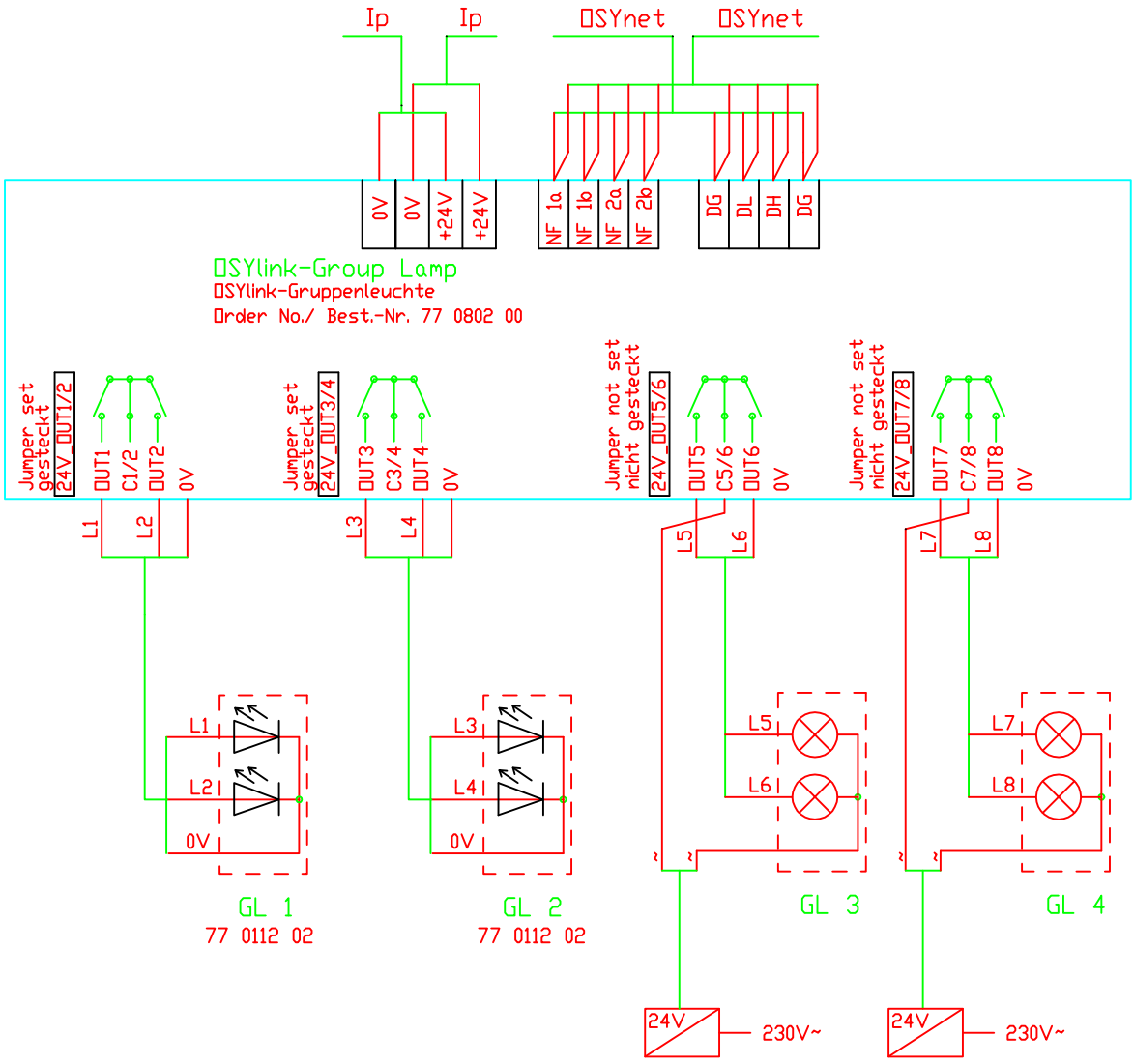
After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.



77 0802 00
OSYlink-Gruppenleuchte
OSYlink-Group lamp



Internal power supply
Interne Stromversorgung

24V DC/max.60mA / per output pro Ausgang

Jumper OUT1/2 + OUT3/4 set
Jumper OUT1/2 + OUT3/4 gesteckt

External power supply
Externe Stromversorgung

24V AC or/oder DC / max.1A

Jumper OUT5/6 + OUT7/8 not set
Jumper OUT5/6 + OUT7/8 nicht gesteckt

The rooms have to be assigned to the outputs in the System Organizer Software.
Die Zuordnung der Räume zu den Ausgängen wird in der Software System Organizer vorgenommen.

GL = Grouplamp/Gruppenleuchte
L = Lamp/Leuchte

Ip=NYM 2x2,5qmm/sqnm

TUNSTALL GmbH — CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name
Gez.		06.06.11	WENDKER
Gepr.		15.03.07	Föcking

SYlink-Group Lamp
SYlink Gruppenleuchte

Order No.: / Best.Nr.: 77 0802 00

Drawing No.: / Zeichn.Nr.: 74 1 0057 4 9 2

Installationsanleitung D

OSYlink-Universal, Best.-Nr. 77 0803 00
Schnittstelle zur Anschaltung von Fremdanlagen und/oder technischen Einrichtungen an den Gruppenbus (OSYnet).

Ruhestromaufnahme (alle Ausgänge aus): 40 mA.

Max. Stromaufnahme (alle Ausgänge ein): 100 mA.

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Vorsicht! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 54)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Universal, order no. 77 0803 00
Interface for connecting external systems and/or technical installations to the group bus (OSYnet).

Standby current consumption (all outputs OFF): 40 mA.

Max. current consumption (all outputs ON): 100 mA.

Note! The complete installation of the system is described in the technical manual.

Caution! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

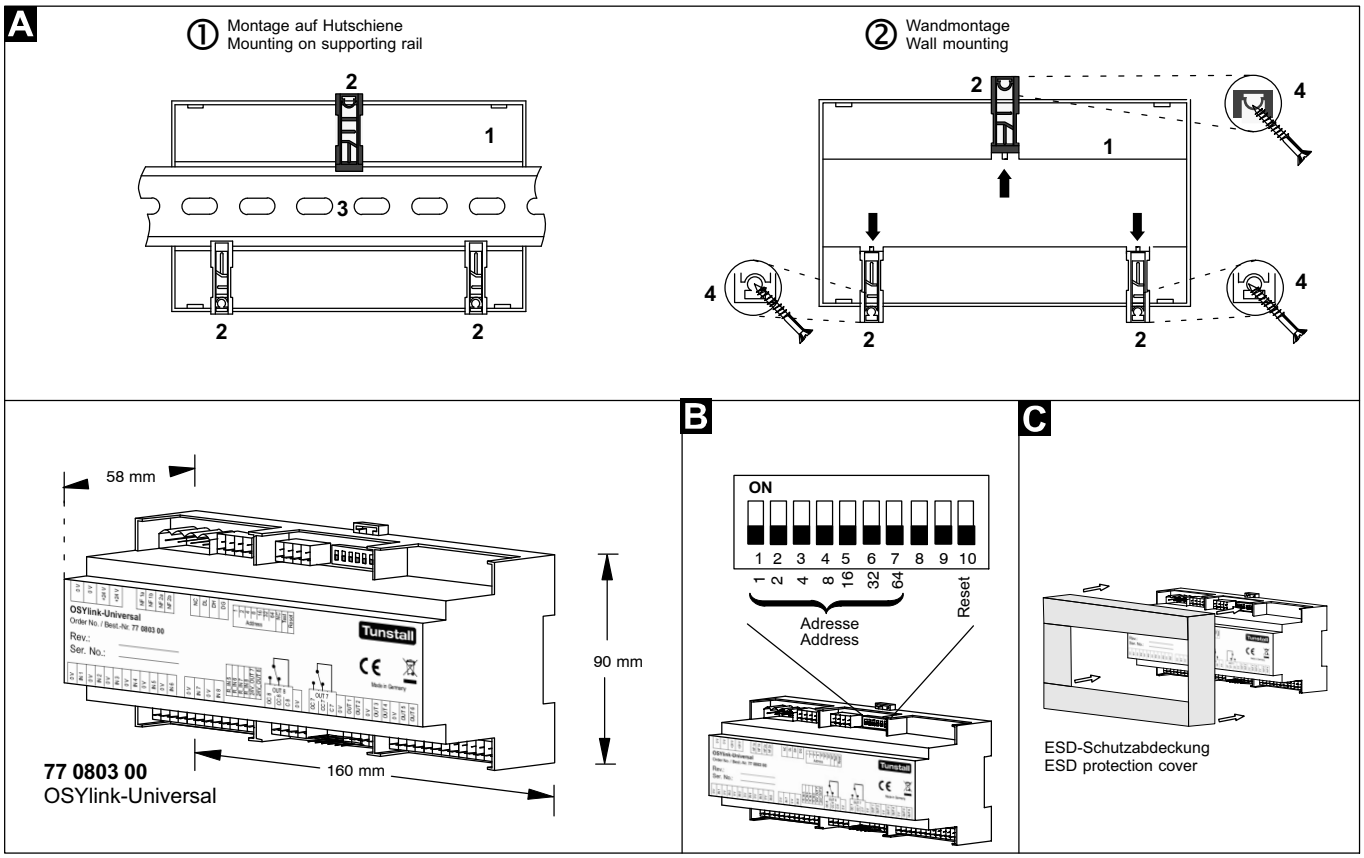
Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 54)

After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

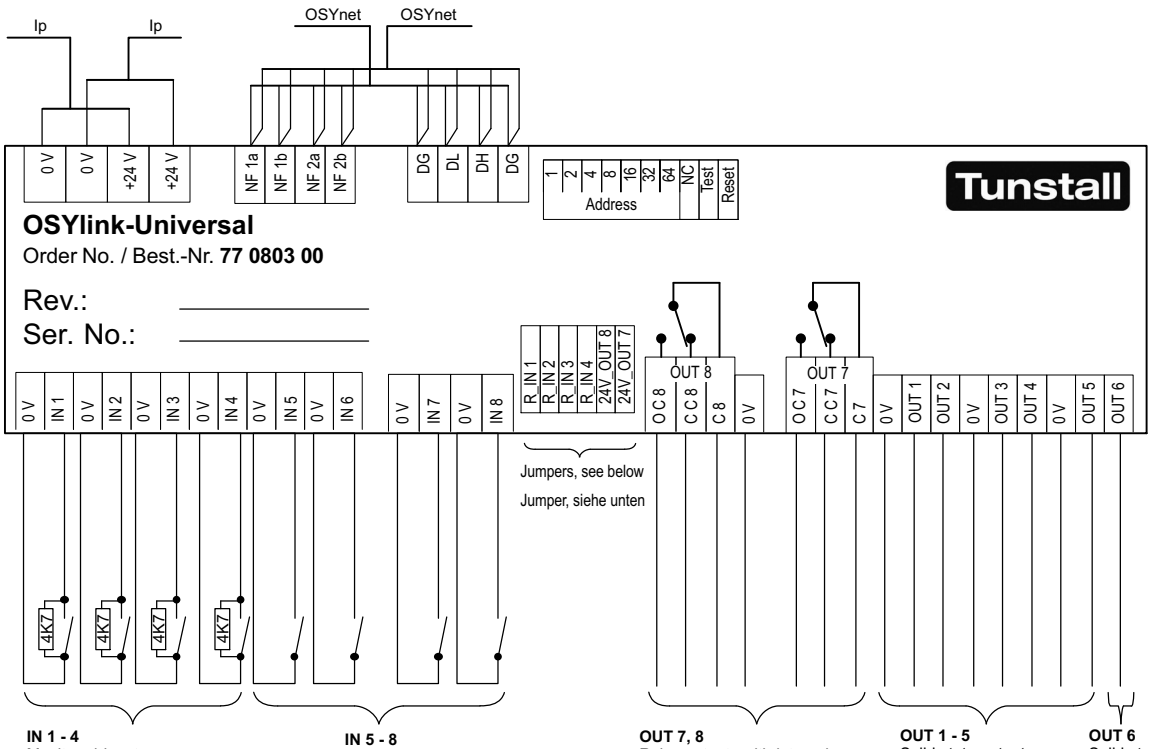
D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.



Anschlüsse D

Connections GB



IN 1 - 4
Monitored inputs

Überwachte Schalteingänge

IN 5 - 8
Inputs

Schalteingänge

OUT 7, 8
Relay outputs with internal or external power supply (external power supply: 24 V AC or DC, max. 1 A)

Relais-Ausgänge mit interner oder ext. Spannungsversorgung (extener Spannungsversorgung: 24 V AC oder DC, max. 1 A)

OUT 1 - 5
Solid state outputs (24 V DC, max. 100 mA)

Elektronische Ausgänge (24 V DC, max. 100 mA)

OUT 6
Solid state output (24 V DC, max. 100 mA) with location light feature

Elektronischer Ausgang (24 V DC, max. 100 mA) mit Findelicht-Funktion

Jumper

R_IN1:	Jumper setzen, wenn IN 1 nicht benutzt.
R_IN2:	Jumper setzen, wenn IN 2 nicht benutzt.
R_IN3:	Jumper setzen, wenn IN 3 nicht benutzt.
R_IN4:	Jumper setzen, wenn IN 4 nicht benutzt.
24V_OUT7:	Jumper setzen, wenn Spannungsversorgung an OUT 7 intern.
24V_OUT8:	Jumper setzen, wenn Spannungsversorgung an OUT 8 intern.

Jumpers

R_IN1:	Set jumper, if IN 1 is not used.
R_IN2:	Set jumper, if IN 2 is not used.
R_IN3:	Set jumper, if IN 3 is not used.
R_IN4:	Set jumper, if IN 4 is not used.
24V_OUT7:	Set jumper if internal 24 V is used for OUT 7.
24V_OUT8:	Set jumper if internal 24 V is used for OUT 8.

IN 1	Überwachter Schalteingang - Ruf	Schließerkontakt mit parallelem 4K7-Widerstand
IN 2	Überwachter Schalteingang - Notruf	Schließerkontakt mit parallelem 4K7-Widerstand
IN 3	Überwachter Schalteingang - Alarmruf	Schließerkontakt mit parallelem 4K7-Widerstand
IN 4	Überwachter Schalteingang - Ruf	Schließerkontakt mit parallelem 4K7-Widerstand

Funktion von IN 1 - IN 4: Kontakt geschlossen = Rufmeldung frischer Ruf
Kontakt geöffnet = Ausmeldung Ruf abgestellt
Quittierung möglich, frisch / abgefragt

IN 5	Schalteingang - Sammeldurchsage (alle Stationen)	Schließerkontakt
IN 6	Schalteingang - Sammeldurchsage (alle Anwesenheiten)	Schließerkontakt

Funktion von IN 5 - IN 6: Kontakt geschlossen = Durchsage ausgelöst
Kontakt geöffnet = Durchsage beendet

IN 7	Schalteingang - Ruf auslösen	Schließerkontakt
IN 8	Schalteingang - Ruf abstellen	Schließerkontakt

Funktion von IN 7: Kontakt geschlossen = Ruf auslösen
Kontakt geöffnet = ohne Funktion

Funktion von IN 8: Kontakt geschlossen = Ruf von IN7 abstellen
Kontakt geöffnet = ohne Funktion

OUT 1	Schaltausgang frei konfigurierbar, Werkseinstellung: Sammelausgang Rufe	Elektronischer Ausgang 24V
OUT 2	Schaltausgang frei konfigurierbar, Werkseinstellung: Sammelausgang Notrufe	Elektronischer Ausgang 24V
OUT 3	Schaltausgang frei konfigurierbar, Werkseinstellung: Sammelausgang Alarmrufe	Elektronischer Ausgang 24V
OUT 4	Schaltausgang frei konfigurierbar	Elektronischer Ausgang 24V
OUT 5	Schaltausgang frei konfigurierbar	Elektronischer Ausgang 24V
OUT 6	Schaltausgang frei konfigurierbar	Elektron. Ausgang 24V und/oder Findelicht-Funktion für Eingänge IN1, IN2, IN3, IN4, IN7.
OUT 7	Schaltausgang frei konfigurierbar	Wechselkontakt potentialfrei, interne 24V nutzbar
OUT 8	Schaltausgang frei konfigurierbar	Wechselkontakt potentialfrei, interne 24V nutzbar

Konfiguration der Ausgänge in der Software SystemOrganizer.
Bei Stationszusammenschaltung zeigen die Ausgänge stationsübergreifend an.

IN 1	Monitored input - Call	Normally open contact with parallel 4K7 resistor
IN 2	Monitored input - Emergency call	Normally open contact with parallel 4K7 resistor
IN 3	Monitored input- Alarm call	Normally open contact with parallel 4K7 resistor
IN 4	Monitored input - Call	Normally open contact with parallel 4K7 resistor

Function for IN 1 - IN 4: Contact closed = Call message Fresh call
Contact opened = Off message Call cancelled
Acknowledgement possible, fresh / answered

IN 5	Input - Collective announcement (to all wards)	Normally open contact
IN 6	Input - Collective announcement (to all staff)	Normally open contact

Function for IN 5 - IN 6: Contact closed = Announcement started
Contact opened = Announcement closed

IN 7	Input - Raise call	Normally open contact
IN 8	Input - Cancel call	Normally open contact

Function for IN 7: Contact closed = Raise call
Contact opened = no function

Function for IN 8: Contact closed = Cancel call from IN7
Contact opened = no function

OUT 1	Output can be configured. Factory setting: Collective output Calls	Solid state output 24V
OUT 2	Output can be configured. Factory setting: Collective output Emergency calls	Solid state output 24V
OUT 3	Output can be configured. Factory setting: Collective output Alarm calls	Solid state output 24V
OUT 4	Output can be configured	Solid state output 24V
OUT 5	Output can be configured	Solid state output 24V
OUT 6	Output can be configured	Solid state output 24V and/or location light feature for inputs IN 1, IN 2, IN 3, IN 4, IN 7.
OUT 7	Out. can be configured	Change-over contact potential-free, internal 24V can be used
OUT 8	Out. can be configured	Change-over contact potential-free, internal 24V can be used

The outputs are configured using the SystemOrganizer software.
In case of ward coupling the outputs signal across wards.

00 8802 36, 02/18 (Rev. 6.0)

Installationsanleitung D

OSYlink-Durchsage, Best.-Nr. 77 0804 00
Schnittstelle zum Anschluss von Durchsagelautsprechern, Bestell-Nr. 05 0024 01, an den Gruppenbus (OSYnet). Anschaltung als Einzelgerät oder in Gruppen.

- 1 Audio-Ausgang zur Ansteuerung von aktiven Lautsprechern (max. 5 Lautsprecher)
- 1 potentialfreier Schaltausgang zur Steuerung der Zuschaltkennung
- Max. Stromaufnahme: 60 mA

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Achtung! Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Wahlweise Montage auf Hutschiene oder Wandmontage

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B Adresse einstellen (1 - 110)

Zum Einstellen der Adresse auf der Leiterplatte dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Entsprechenden Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Codierschalter 8 und 9 nicht verändern! Werkseitige Einstellung: OFF.

Reset
Um einen Hardware-Reset durchzuführen, den Codierschalter 10 für eine Sekunde auf ON und anschließend wieder auf OFF stellen. Ein Hardware-Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C ESD-Schutzabdeckung (Bestell-Nr. 00 0276 53)

Nach dem Anschließen der Leitungen (siehe Rückseite) die ESD-Schutzabdeckung aufsetzen. (ESD = Electro Static Discharge = Elektrostatische Entladung)

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich das OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink-Announcement, order no. 77 0804 00
Interface for connecting announcement loudspeakers, order no. 05 0024 01, to the group bus (OSYnet). Connection of single devices or groups.

- 1 audio output for driving active loudspeakers (max. 5 loudspeakers)
- 1 potential-free digital output for control of signalling the activity of the announcement system
- Max. current consumption: 60 mA

Note! The complete installation of the system is described in the technical manual.

Attention! The printed circuit board includes electrostatic sensitive components. Avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting of address (1 - 110)

For setting the address on the printed circuit board please use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Do not change code switches 8 and 9! Factory set: OFF.

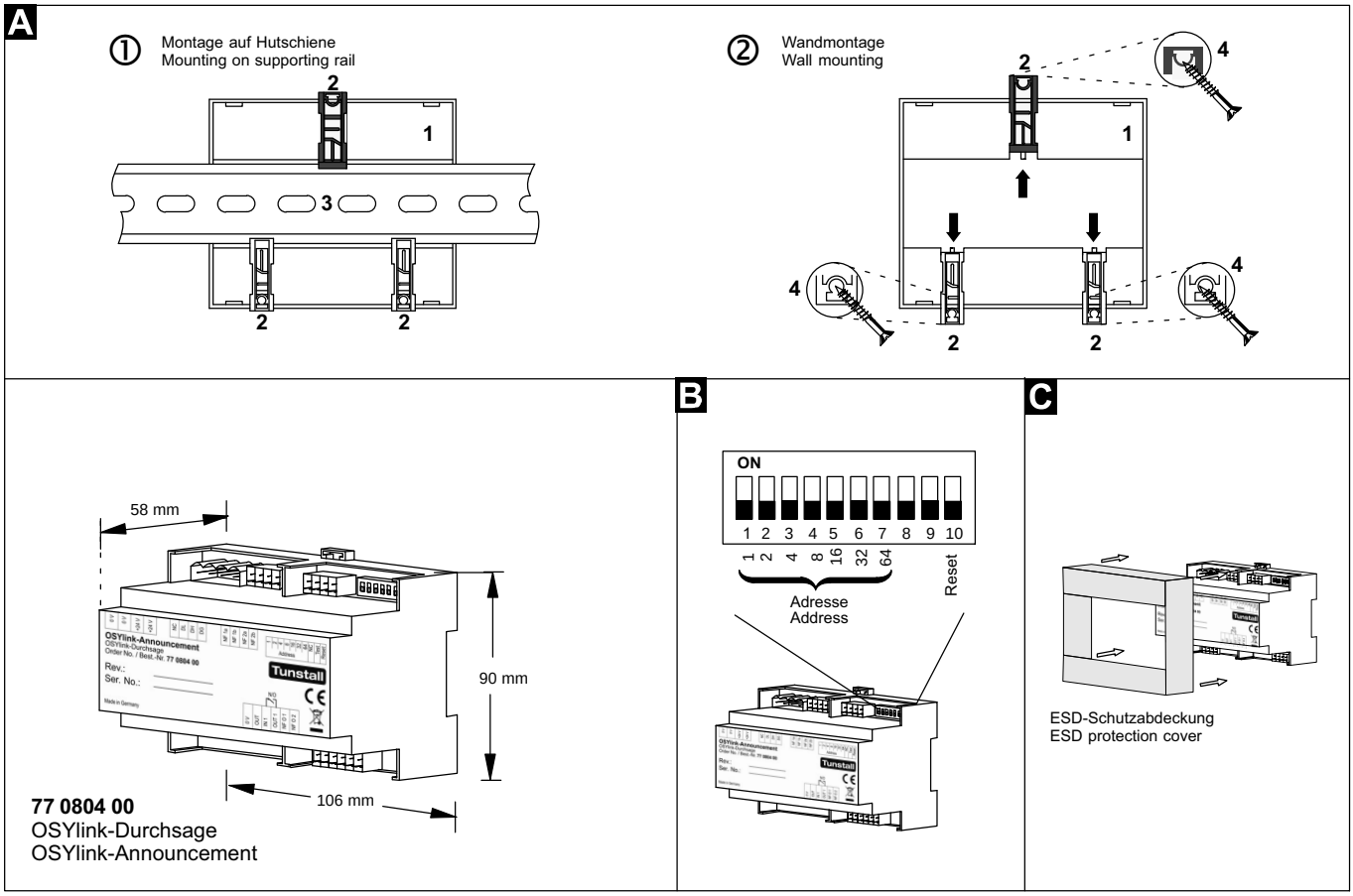
Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C ESD protection cover (order no. 00 0276 53)

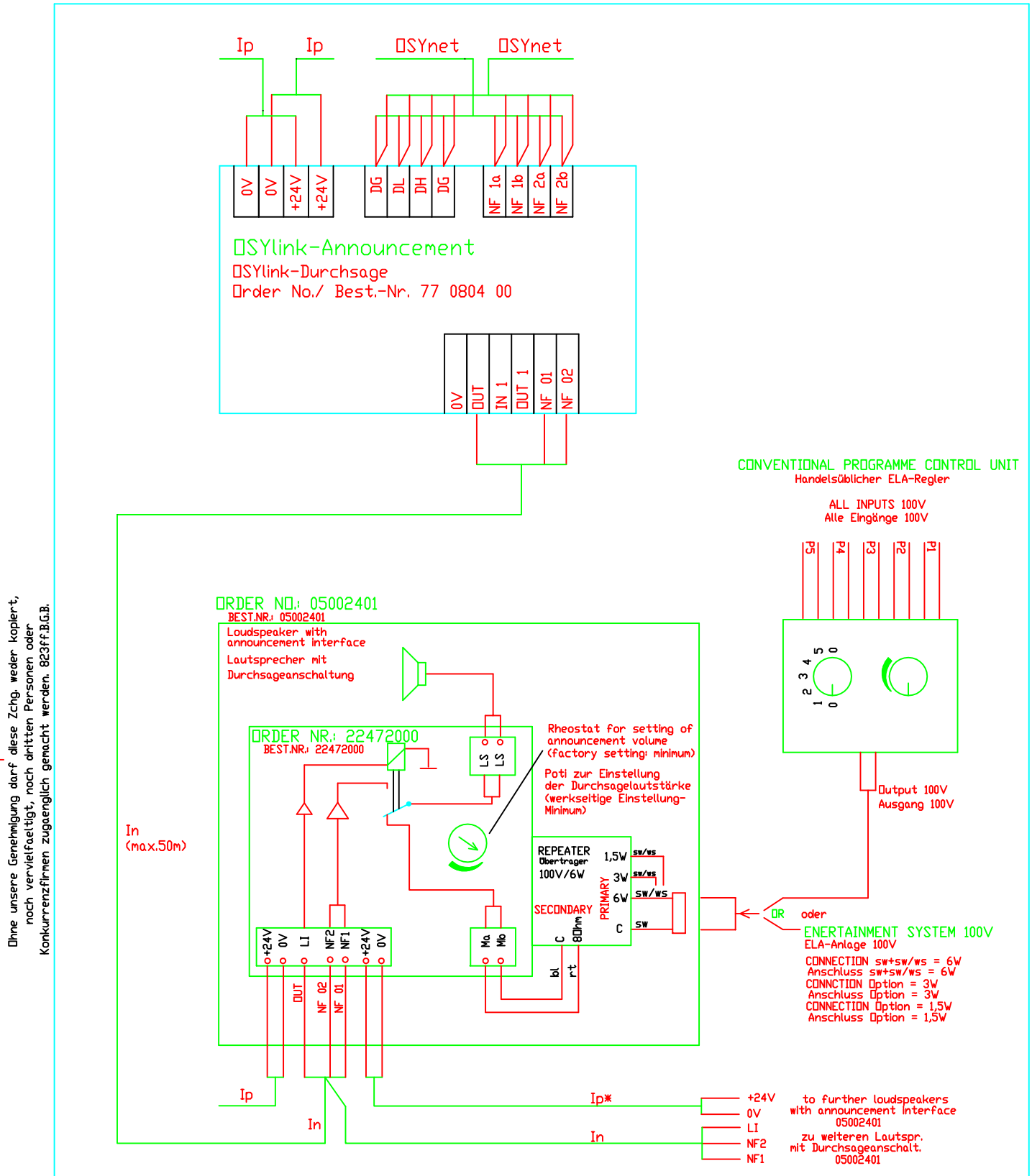
After you have connected the cables (see reverse side), you have to put the ESD protection cover on the OSYlink. (ESD = Electro Static Discharge)

D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.



CE



In=IY(ST)Y2x2x0,8
Ip=NYM 2x2,5sqmm/qmm

rt = red
bl = blue
ws = white
sw = black

* In case of a voltage less than 20V, an additional cable (c=2x2x0,8) has to be laid.
Max. 5 announcement loudspeakers per SY link - Announcement

* Wird diese Spannung 20V unterschritten, muß eine zusätzliche Leitung (c=2x2x0,8) für die Spannungsversorgung gelegt werden.
Max.5 Durchsagelautsprecher pro SY link - Durchsage

TUNSTALL GmbH — CONNECTION PLAN ANSCHLUSSPLAN

Aend.-I.	Art der Aend.	Datum	Name	SYlink-Announcement SYlink-Durchsage	
Gez.		22.01.13	WENDKER	Order No.: / Best.Nr.: 77 0804 00	Drawing No. / Zeichn.Nr.: 05 1 0208 4 9 2
Gepr.		22.01.13	Schäfer		

Installationsanleitung D

OSYlink AS-CCS, Best.-Nr. 77 0870 00
Schnittstelle zur Anschaltung der Raumterminals einer CCS-Station (CCS-Bus) an den Gruppenbus (OSYnet) einer Flamenco-Rufanlage. Stromaufnahme: 90 mA.
Bei Anschaltung von Wechselsprechsystemen (CCS 1080 W) wird zusätzlich ein Wechselsprechadapter, Best.-Nr. 74 8000 00, mit dem Netzgerät, Best.-Nr. 21 8000 00, benötigt.

OSYlink AS-VKS, Best.-Nr. 77 0871 00
Schnittstelle zur Anschaltung der Raumterminals einer VKS-Station (CCS-Bus) an den Gruppenbus (OSYnet) einer Flamenco^{SE}-Rufanlage. Stromaufnahme: 90 mA.
Zusätzlich wird ein Wechselsprechadapter, Best.-Nr. 74 8000 00, mit dem Netzgerät, Best.-Nr. 21 8000 00, benötigt.

OSYlink AS-L200, Best.-Nr. 77 0872 00
Schnittstelle zur Anschaltung der Raumterminals einer L200-Station (Stationsbus WCB0) an den Gruppenbus (OSYnet) einer Flamenco-Rufanlage. Stromaufnahme: 90 mA.

Hinweis! OSYlink AS sowie die angeschlossenen Raumterminals müssen im SystemOrganizer des Flamenco-Systems konfiguriert werden.

Vorsicht! Elektrostatisch gefährdete Bauteile
Die Leiterplatte ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Montage

Montage auf Hutschiene oder Wandmontage im Stationsverteiler oder Installationsraum.

A1: Montage auf Hutschiene (35 mm)
OSYlink **1** auf die Hutschiene **3** aufklipsen, bis es einrastet.

A2: Wandmontage
1. Die drei Befestigungsclips **2** soweit herausschieben, bis die Öffnungen für die Schrauben **4** frei liegen.
2. OSYlink **1** an der Wand festschrauben.

B 10-poligen Codierschalter einstellen

Adresse einstellen (1 – 110)
Zum Einstellen der Adresse des OSYlink am Gruppenbus OSYnet dienen die Codierschalter 1 bis 7 mit den Werten 1, 2, 4, 8, 16, 32, 64. Schalter auf ON stellen.

Beispiele: Adresse 1 wird durch Einschalten des Codierschalters 1 eingestellt.
Adresse 4 durch Einschalten des Codierschalters 3.
Adresse 24 wird durch Addition gebildet: Schalter 4 und 5 auf ON stellen (8+16=24).

Angeschlossenes System einstellen (gemäß Abb. B)
Zum Einstellen des angeschlossenen Systems dienen Codierschalter 8 „W/G“ mit W für Wechselsprechen und G für Gegensprechen und Codierschalter 9 „1080/2000“.

Hardware-Reset durchführen
Für einen Reset den Codierschalter 10 für eine Sekunde auf ON und dann wieder auf OFF stellen. Ein Reset muss durchgeführt werden, wenn eine Codierschalterstellung verändert wurde. Sonst werden die geänderten Einstellungen nicht übernommen.

C System Status LEDs

OSYlink AS-CCS oder OSYlink AS-VKS:

CCS L200 Audio OSYnet
grün – grün rot

- Blinkt langsam (1s / 1s) = Verbindung zum OSYnet ist ok. Dauerlicht = Keine Verbindung zum OSYnet.
- Blinkt langsam (1s / 1s) = Sprechleitung ist betriebsbereit. Blinkt schnell = Sprechverbindung oder Durchsage aktiv.
- Blinkt langsam (1s / 1s) = CCS-Bus ist ok. Blinkt schnell = Mindestens eine Störung am CCS-Bus Dauerlicht = OSYlink AS nicht betriebsbereit! OSYlink AS wartet auf Konfigurationsdaten vom OSY-ControlCenter.

OSYlink AS-L200:

CCS L200 Audio OSYnet
– grün – rot

- Blinkt langsam (1s / 1s) = Verbindung zum OSYnet ok. Dauerlicht = Keine Verbindung zum OSYnet.
- Blinkt langsam (1s / 1s) = Stationsbus WCB0 ist ok. Blinkt schnell = Mindestens eine Störung am Stationsbus WCB0 Dauerlicht = OSYlink AS nicht betriebsbereit! OSYlink AS wartet auf Konfigurationsdaten vom OSY-ControlCenter.

D Demontage von der Hutschiene

Einen Schraubendreher in die sichtbare Öffnung des schwarzen Befestigungsclips stecken und dann den Clip nach oben herausziehen, bis sich OSYlink **1** von der Hutschiene **3** löst.

Installation Instructions GB

OSYlink AS-CCS, order no. 77 0870 00
Interface for connecting the room terminals of a CCS ward (CCS bus) to the group bus (OSYnet) of a Flamenco nurse call system. Current consumption: 90 mA.
For connecting a half-duplex speech system (CCS 1080 W) additionally a speech amplifier, order no. 74 8000 00, with the power supply unit, order no. 21 8000 00, is needed.

OSYlink AS-VKS, order no. 77 0871 00
Interface for connecting the room terminals of a VKS ward (CCS bus) to the group bus (OSYnet) of a Flamenco^{SE} call system. Current consumption: 90 mA.
Additionally a speech amplifier, order no. 74 8000 00, with the power supply unit, order no. 21 8000 00, is needed.

OSYlink AS-L200, order no. 77 0872 00
Interface for connecting the room terminals of a L200 ward (ward bus WCB0) to the group bus (OSYnet) of a Flamenco nurse call system. Current consumption: 90 mA.

Note! The OSYlink module and connected room terminals must be configured using the SystemOrganizer of the Flamenco system.

Caution! Electrostatic sensitive components
The printed circuit board includes electrostatic sensitive components. Therefore avoid touching.

A Mounting

Optionally mounting on supporting rail or wall mounting in distribution boxes or technical rooms.

A1: Mounting on supporting rail (35 mm)
Click the OSYlink **1** onto the supporting rail **3**.

A2: Wall mounting
1. Push out the three fixing clips **2** until the holes for the screws **4** appear.
2. Screw the OSYlink **1** to the wall.

B Setting the 10 pole coding switch

Setting the address (1 – 110)
For setting the address for the OSYlink on the group bus OSYnet use the code switches 1 to 7 with the values 1, 2, 4, 8, 16, 32, 64. Set the appropriate switch to ON.

Examples: Address 1 is set by using the code switch 1. Address 4 by the code switch 3. Address 24 is selected through addition: coding switch 4 and 5 (8 + 16 = 24).

Setting the connected system (according to figure B)
For setting the connected system use code switch 8 „W/G“ (W = simplex speech, G = duplex speech) and code switch 9 „1080/2000“.

Reset
To reset the OSYlink you have to set code switch 10 to ON for one second, then back to OFF. A reset has to be made, if a code switch setting has been changed. Otherwise the new setting will not be activated.

C System Status LEDs

OSYlink AS-CCS or OSYlink AS-VKS:

CCS L200 Audio OSYnet
green – green red

- Flashing slowly (1s / 1s) = Connection to OSYnet is ok. Steady light = No connection to OSYnet.
- Flashing slowly (1s / 1s) = Speech line is operational. Flashing quickly = Active speech connection or announcement.
- Flashing slowly (1s / 1s) = CCS-Bus is ok. Flashing quickly = Minimum one fault on the CCS bus Steady light = OSYlink AS is not operational! It is waiting for configuration data from the OSY-ControlCenter

OSYlink AS-L200:

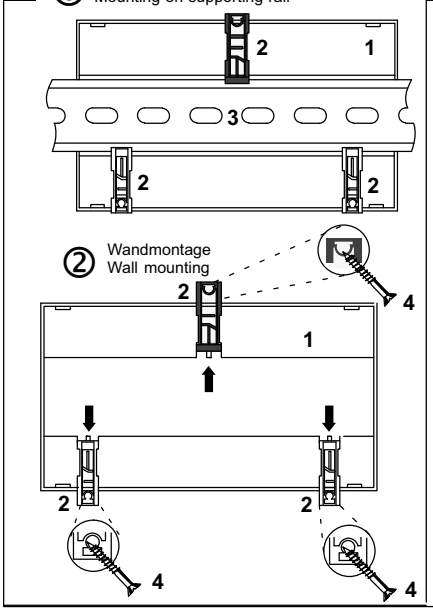
CCS L200 Audio OSYnet
– green – red

- Flashing slowly (1s / 1s) = Connection to OSYnet ok. Steady light = No connection to OSYnet.
- Flashing slowly (1s / 1s) = Ward bus WCB0 is ok. Flashing quickly = Minimum one fault on the ward bus WCB0 Steady light = OSYlink AS is not operational! It is waiting for configuration data from the OSY-ControlCenter

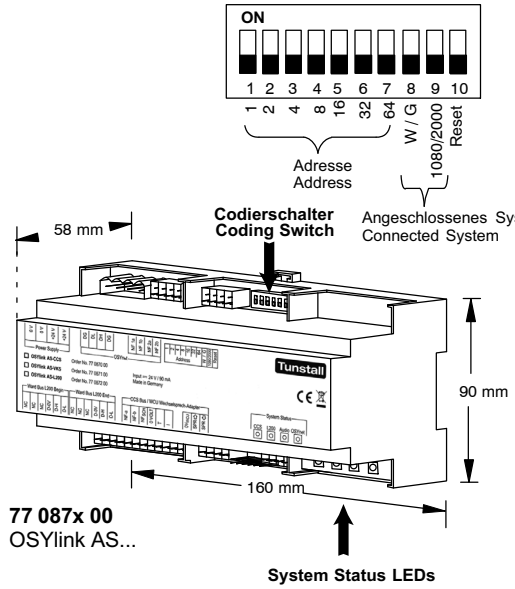
D Dismantling from supporting rail

Put a screw driver into the visible hole of the black fixing clip. Then pull the clip upwards, until the OSYlink **1** comes loose from the supporting rail **3**.

A



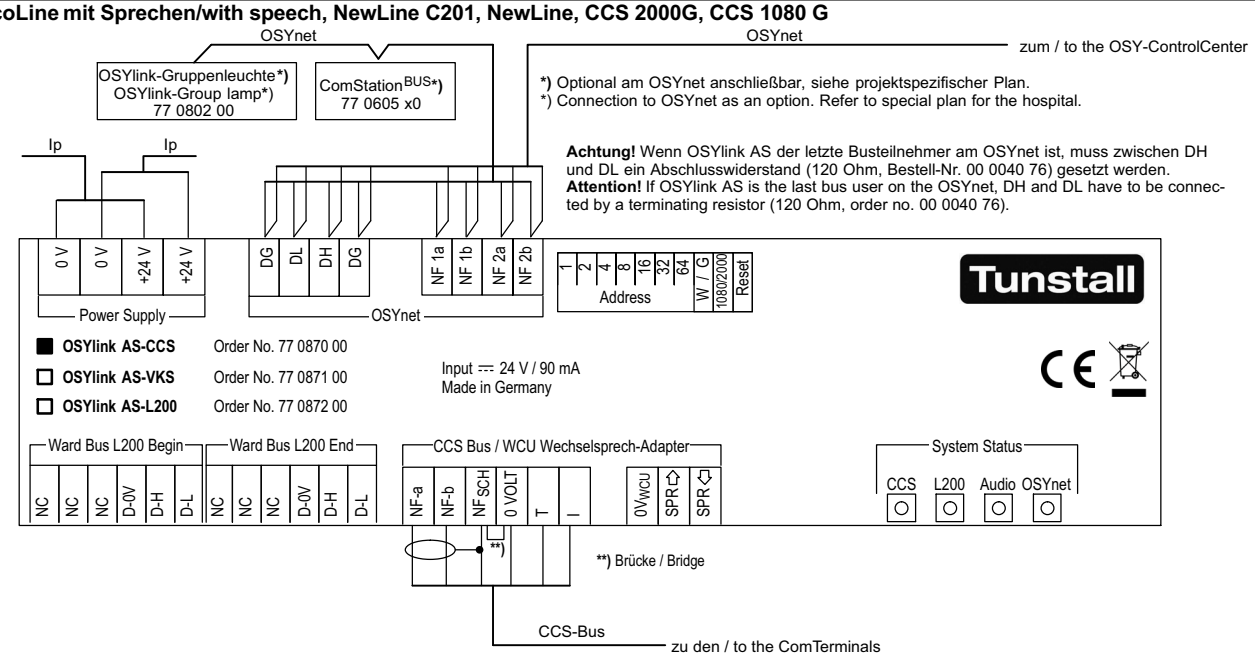
B



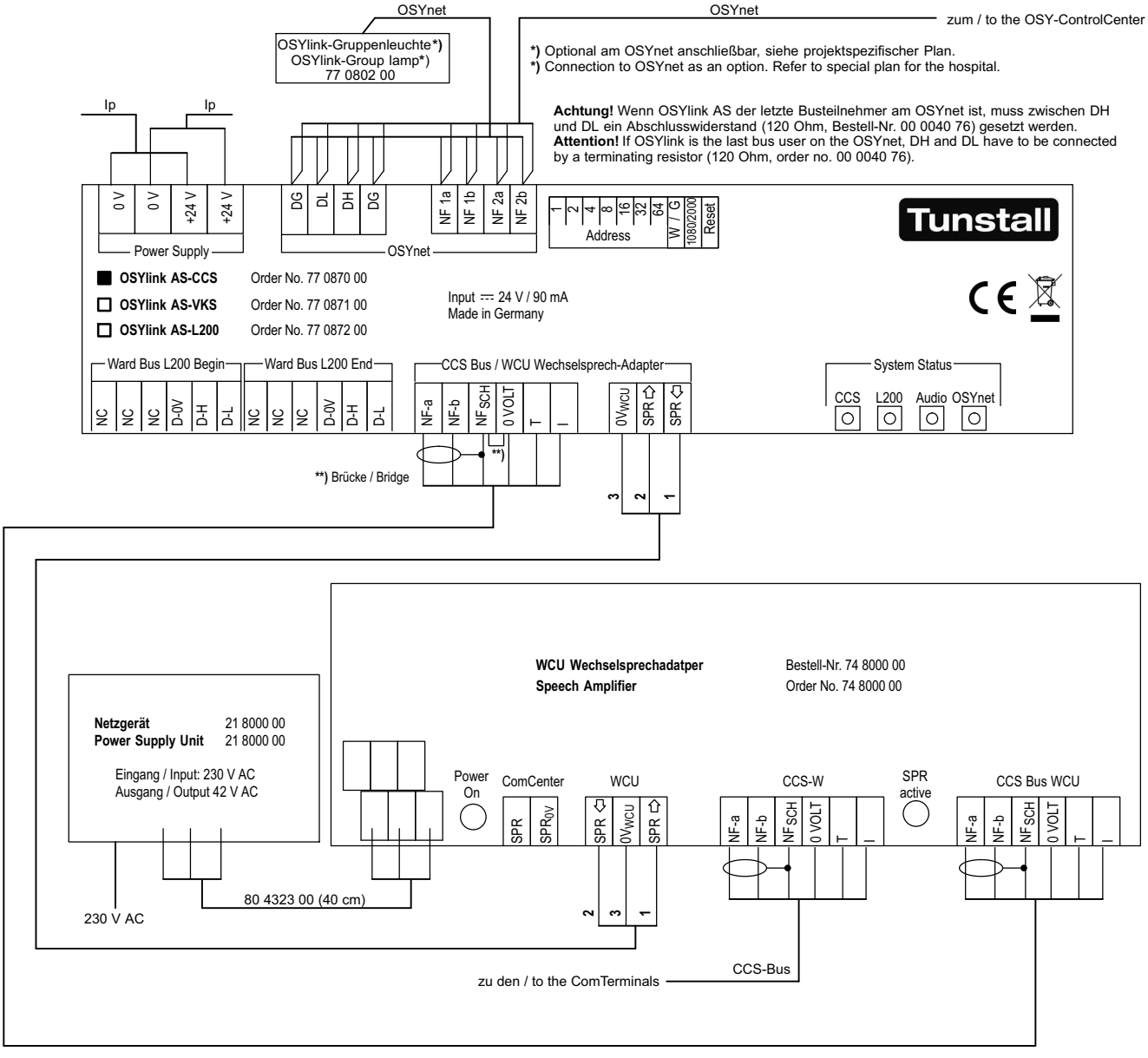
	Angeschlossenes System: / Connected System:	Codierschalter Coding Switch 8	9
OSYlink AS-CCS	EccoLine mit Sprechen / EccoLine with speech, NewLine C201, NewLine, CCS 2000 G	ON	ON
	CCS 1080 G	ON	OFF
	CCS 1080 W	OFF	OFF
OSYlink AS-VKS	VKS 3000 (CCS 2000 Bus)	OFF	ON
	VKS 3000 (CCS 1080 Bus)	OFF	OFF
	VKS 2000 (CCS 2000 Bus)	OFF	ON
	VKS 2000 (CCS 1080 Bus)	OFF	OFF
OSYlink AS-L200	EccoLine L200, NewLine L200	OFF	OFF

00 8800 62, 04/14 (Rev. 5.0)

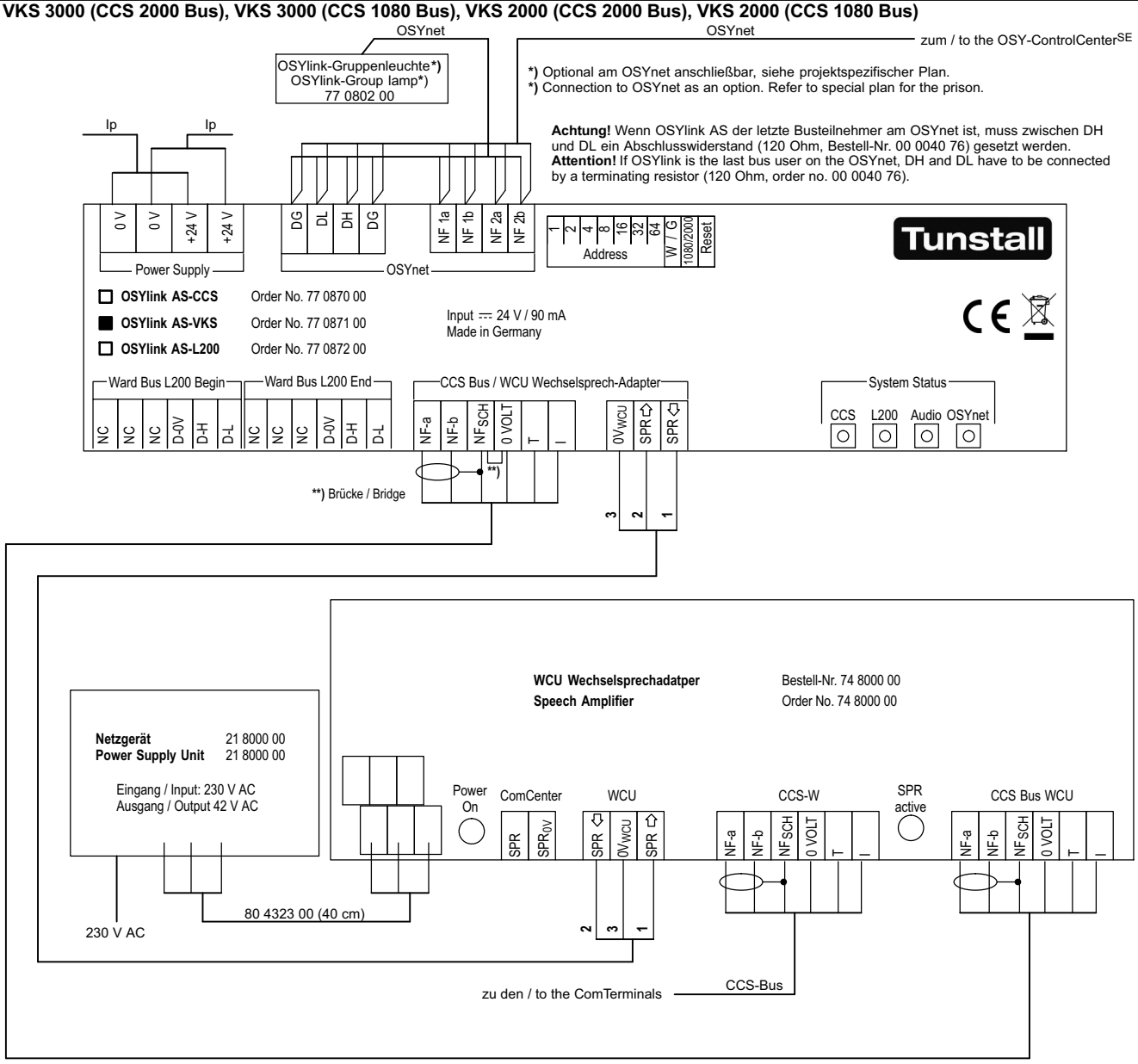
1 EccoLine mit Sprechen/with speech, NewLine C201, NewLine, CCS 2000G, CCS 1080 G



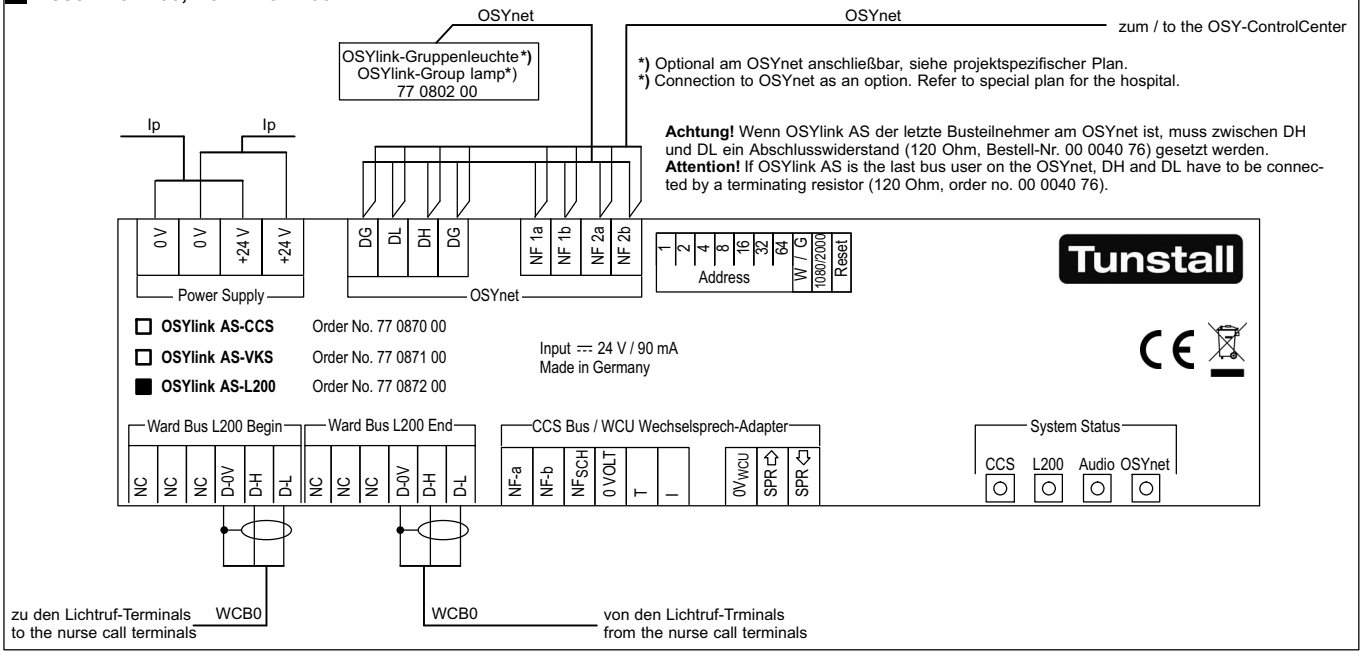
CCS 1080 W



3 VKS 3000 (CCS 2000 Bus), VKS 3000 (CCS 1080 Bus), VKS 2000 (CCS 2000 Bus), VKS 2000 (CCS 1080 Bus)



4 EccoLine L200, NewLine L200



Installationsanleitung D

Verbindungsleitung für Diagnostikgeräte, Best.-Nr. 70 0812 00
Verbindungsleitung zum Anschluss von elektromedizinischen Geräten an Steckvorrichtungen, Best.-Nr. 70 xxxx xx.

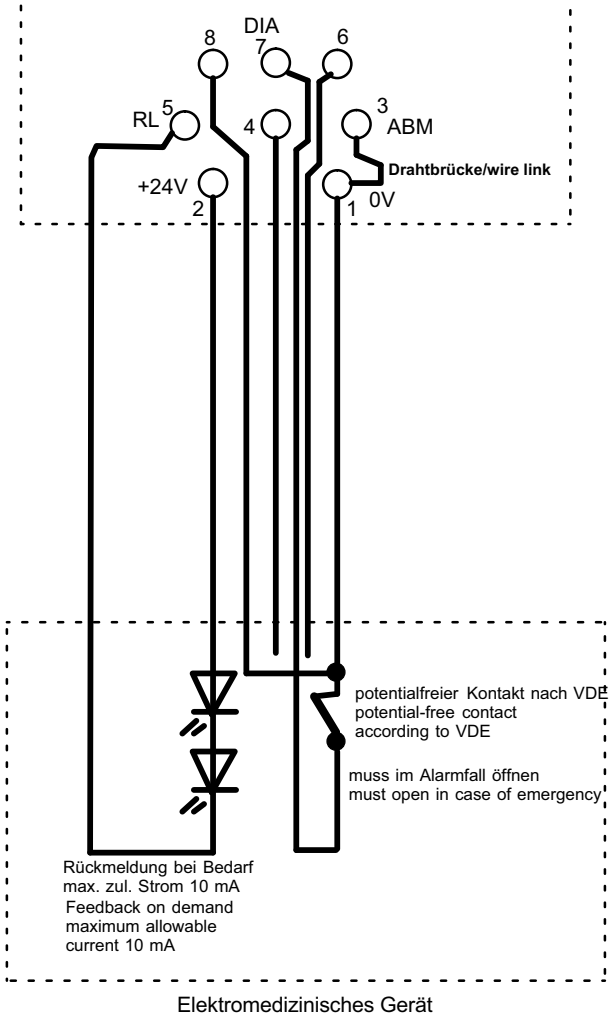
Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

Installation Instructions GB

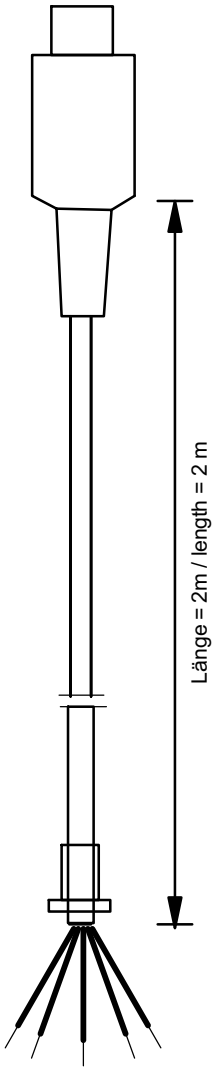
Diagnostik connection cable, order no. 70 0812 00
Cable for connection of electromedical devices to connection sockets, order no. 70 xxxx xx.

Note! The complete installation of the system is described in the technical manual.

Anschluss an Steckvorrichtung 70 xxxx xx
Connection to connection socket 70 xxxx xx



Elektromedizinisches Gerät
Electromedical Device

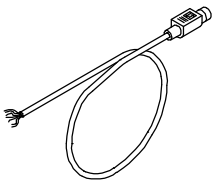


Freie Drahtenden (30 mm), verzinnt
Free wire ends (30 mm), tin-plated

Adernfarben:	**Wire colours:**
1 = blau	1 = blue
2 = rot	2 = red
3 =	3 =
4 = weiß	4 = white
5 = orange	5 = orange
6 = gelb	6 = yellow
7 = schwarz	7 = black
8 = grün	8 = green

Achtung! Nicht benutzte Drahtenden müssen isoliert werden.
Attention! Non used wire ends have to be insulated.

70 0812 00
Verbindungsleitung für Diagnostikgeräte
Diagnostic connection cable



CE

enspricht Zeichnungs-Nr./equivalent to drawing no. 70 1 0013 403, 28.04.1997

DE - Installationsanleitung

19“-Montageset, Best.-Nr. 76 0900 01

Vorgesehen zum Einbau von bis zu zwei IP-SystemManagern oder zum Einbau von OSYlink-Modulen in einen 19"-Systemschrank.

Technische Daten

Abmessungen (HxBxT)	132,5 x 482,6 x 180 mm
Montageart:	19“, 3 HE
Hutschiene:	TS 35/7,5, Länge: 425 mm

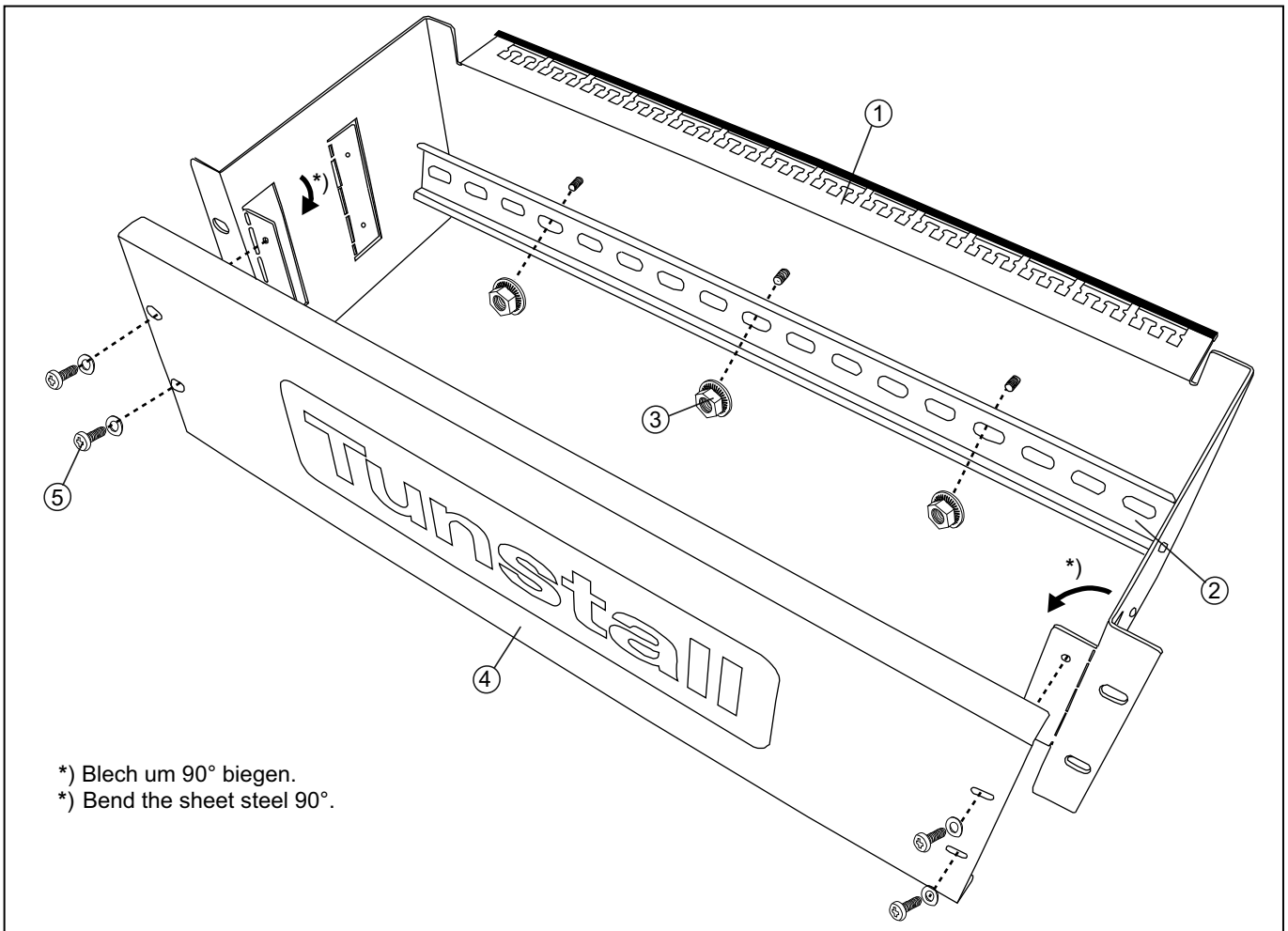
EN - Installation Instructions

19" Mounting Set, order no. 76 0900 01

Intended for the installation of up to two IP-SystemManagers or the installation of OSYlink modules in a 19" system cabinet.

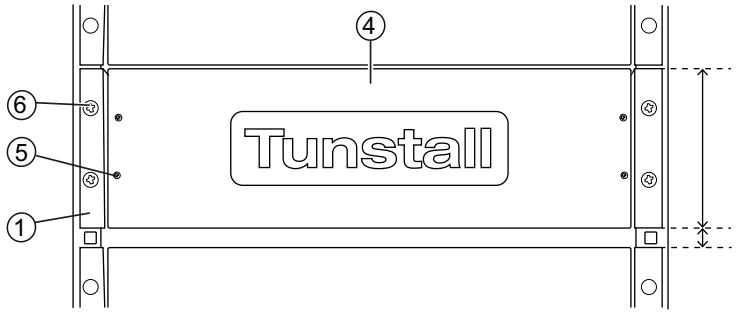
Technical data

Dimensions (HxWxD)	132.5 x 482.6 x 180 mm
Type of mounting	19", 3 U
Top-hat rail	TS 35/7.5, length: 425 mm



*) Blech um 90° biegen.
*) Bend the sheet steel 90°.

Wartungsfreundliche Anordnung im 19″-Systemschrank:
Service-friendly arrangement in the 19″ system cabinet:



3 HE = 5,25″ = 133,35 mm
3 U = 5.25″ = 133.35 mm

1/2″ = 12,7 mm Freiraum unter dem Rahmen
1/2″ = 12.7 mm clearance under the frame

1 - Rahmen
2 - Hutschiene
3 - Drei Muttern (inkl. Unterlegscheibe) für die Hutschiene
4 - Frontabdeckung
5 - Vier Schrauben (mit Unterlegscheibe) für die Frontabdeckung
6 - Vier Schrauben (mit Unterlegscheibe und Mutter) zur Befestigung des Rahmens im 19“-Systemschrank

1 - Frame
2 - Top-hat rail
3 - Three nuts (incl. washer) for the top-hat rail
4 - Front cover
5 - Four screws (with washer) for the front cover
6 - Four screws (with washer and nut) for fixing the frame into the 19“ system cabinet

00 8803 53, 03/2017 (Rev. 1.0)

DE - Installationsanleitung

IP-SystemManager, Bestell-Nr. 76 2100 00

Die Steuerung einer Flamenco^{IP}-Rufanlage erfolgt über dezentral angeordnete IP-SystemManager, die über LAN miteinander vernetzt sind.

Alle IP-SystemManager haben identische Hardware. Jeder IP-SystemManager hat jedoch eine definierte Funktion. Für diese Funktion wurde werkseitig die benötigte Software und eine projektspezifische Datenbank installiert. Das bedeutet, jeder IP-SystemManager muss an dem Standort installiert werden, für den er werkseitig vorbereitet wurde.

Installationsstandort und IP-Adresse entnehmen Sie dem Geräteetikett.

Hinweis! Die vollständige Installation des Systems ist im Technischen Handbuch beschrieben.

Achtung! Die Leiterplatte hinter der Serviceabdeckung ist mit elektrostatisch gefährdeten Bauteilen bestückt. Vermeiden Sie deshalb eine direkte Berührung.

A Produktbeschreibung

1 - Gehäuse
2 - Serviceabdeckung
3 - * Hutschiene
4 - 2 Hutschienenklammern

* Nicht im Lieferumfang enthalten, separat bestellen.

B Montage

Der Installationsort muss jederzeit für Befugte zugänglich sein.

Hutschienenmontage gemäß Abb. B.

Optionales Zubehör zum Einbau des IP-SystemManagers in einen 19-Zoll-Systemschrank: 19"-Montageset, Best.-Nr. 76 0900 01. Separat bestellen.

C Demontage

Demontage von der Hutschiene gemäß Abb. C.

EN - Installation Instructions

IP-SystemManager, order no. 76 2100 00

The control of a Flamenco^{IP} nurse call system is performed by decentralised LAN networked IP-SystemManagers.

All IP-SystemManagers are equipped with identical hardware. However, each IP-SystemManager has a defined function. For this function the required software and a project specific database were factory installed. That means, each IP-SystemManager must be installed at that location, for which it has been prepared at the factory.

For installation location and IP address refer to the device label.

Note! The complete installation of the system is described in the Technical Manual.

CAUTION! The printed circuit board behind the service cover includes electrostatic sensitive components. Avoid touching.

A Product description

1 - Housing
2 - Service cover
3 - * DIN rail
4 - 2 DIN rail clamps

* Not included in the scope of delivery, please order separately.

B Mounting

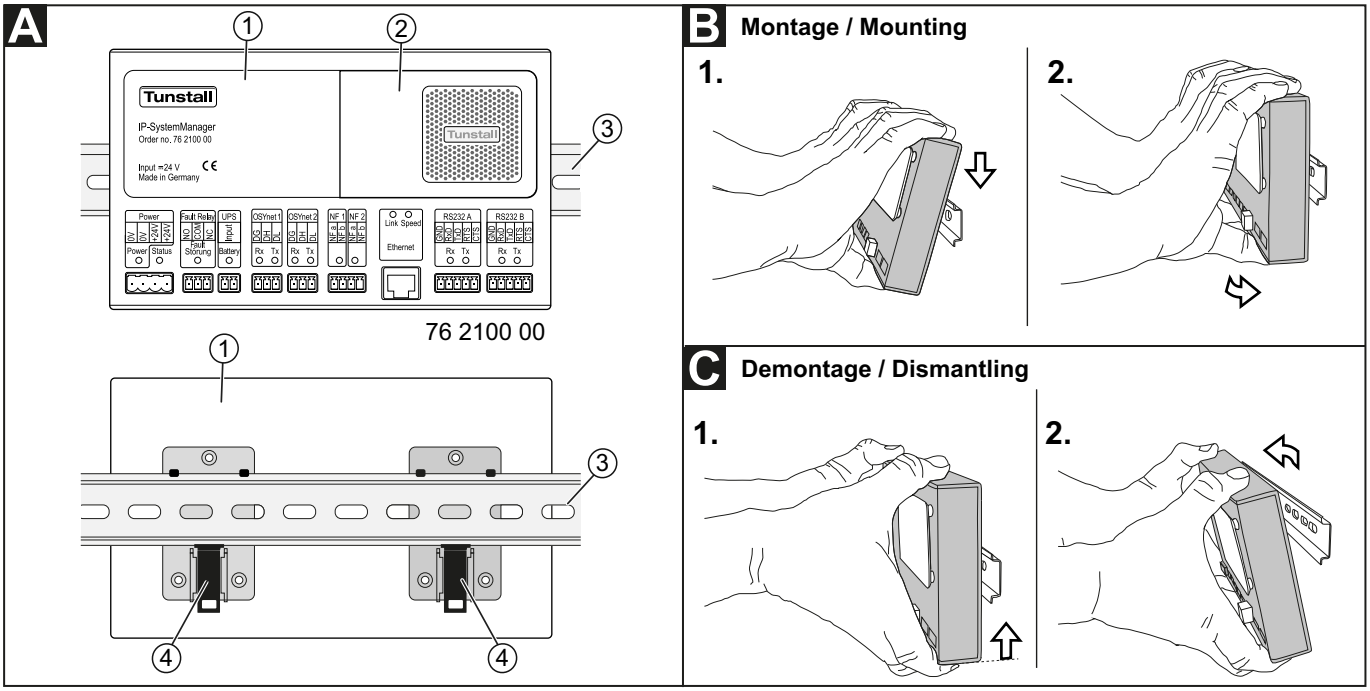
The installation location must always be accessible to authorised persons.

Mounting on DIN rail according to fig. B.

The following optional accessory allows the installation of the IP-SystemManager in a 19 inch system cabinet: 19" mounting kit, order no. 76 0900 01. Please order separately.

C Dismantling

Dismantling from the DIN rail according to fig. C.



DE - Installationsanleitung

Anschlüsse

* Die mit einem Stern gekennzeichneten Anschlüsse sind nur aktiv, wenn der IP-SystemManager werkseitig dafür vorbereitet wurde, siehe projektspezifische Unterlagen.

Anschluss „Power“

Anschluss an die 24-V-Spannungsringleitung der Station oder direkt an ein 24-V-Netzgerät.
Leiterquerschnitt: 2,5 mm²
Anschlussklemme, 4-polig. Ersatzteil-Best.-Nr. 00 0211 33.
Zwei Einlegebrücken, Ersatzteil-Best.-Nr. 00 0220 52.

Anschluss „UPS“

Eingang für den Meldekontakt „Battery active“ des angeschlossenen Netzgeräts mit USV. Verfügbar bei Netzgerät USV, Best.-Nr. 77 3400 00, und Netzgerät USV 60, Best.-Nr. 77 3400 10.
Leiterquerschnitt: 0,14 mm² – 1,5 mm²
Anschlussklemme, 2-polig. Ersatzteil-Best.-Nr. 00 0211 47.

***Anschluss „Fault Relay“ (Störung)**

Die Signalisierung des Ausgangs erfolgt parallel zu der LED „Störung“, Details siehe Kapitel „LED-Anzeigen“.
Störmelderelais-Ausgang
Wechselkontakt, potentialfrei.
Max. Kontaktbelastung: 2 A, 24 V
Leiterquerschnitt: 0,14 mm² – 1,5 mm²
Anschlussklemme, 3-polig. Ersatzteil-Best.-Nr. 00 0211 45.

***Anschlüsse „OSYnet 1“ und „NF 1“**

Anschluss eines Gruppenbusses OSYnet mit bis zu 55 Busteilnehmern (= Empfehlung), (max. 110).
Achtung! Der IP-SystemManager darf nicht in der Mitte der Gruppenbusleitung angeschlossen werden. Er muss an einem Ende der Gruppenbusleitung angeschlossen werden, weil er einen integrierten Busabschlusswiderstand enthält.
In Rufanlagen ohne Sprechkommunikation wird der Anschluss „NF 1“ nicht benutzt.
Zulässige Leitungstypen, siehe Technisches Handbuch.
Anschlussklemme, 3-polig, für OSYnet. Ersatzteil-Best.-Nr. 00 0211 45; Anschlussklemme 4-polig, für NF. Ersatzteil-Best.-Nr. 00 0211 36.

***Anschlüsse „OSYnet 2“ und „NF 2“**

Nicht benutzt.

Anschluss „Ethernet“

Anschluss an das LAN, das alle IP-SystemManager sowie andere IP-basierte Geräte, die mit der Rufanlage verbunden sind, vernetzt.
Ethernet, 10/100 Mbit LAN-Anschluss, RJ45-Buchse.
Max. Leitungslänge: 90 m.
Patchkabel, mindestens Kat. 5e.

***Anschluss „RS232 A“**

ESPA 4.4.4-Protokoll.
Anschluss z.B. von Personensuchanlage, DECT-System, Brandmeldeanlage oder medizinisches elektrisches System.
Maximale Leitungslänge: 10 m
Leiterquerschnitt: 0,14 mm² – 1,5 mm²
Anschlussklemme, 5-polig. Ersatzteil-Best.-Nr.: 00 0211 37.

***Anschluss „RS232 B“**

Wie „RS232 A“, jedoch für ein zweites System.

EN - Installation Instructions

Connections

*The connections marked with a star are only enabled, if the IP-SystemManager was prepared accordingly at the factory, refer to the project specific documents.

Connection "Power"

Connection to the 24 V power supply ring of the ward or directly to a 24 V power supply unit.
Conductor cross-section: 2.5 mm²
Connector, 4-pole. spare part order no. 00 0211 33.
Two insertion bridges, spare part order no. 00 0220 52.

Connection "UPS"

Input for the signalling contact "battery active" of the connected power supply unit UPS. Available at power supply unit UPS, order no. 77 3400 00, and power supply unit UPS 60, order no. 77 3400 10.
Conductor cross-section: 0.14 mm² – 1.5 mm²
Connector, 2-pole. spare part order no. 00 0211 47.

***Connection "Fault Relay"**

The signalling of the output is in parallel with the "Fault" LED, for details refer to the chapter "LED displays".
Fault message relay output.
Change over contact, potential free.
Maximum contact load: 2 A, 24 V
Conductor cross-section: 0.14 mm² – 1.5 mm²
Connector, 3-pole. spare part order no. 00 0211 45.

***Connections "OSYnet 1" and "NF 1"**

Connection of a group bus OSYnet with up to 55 bus users (= recommended), (max. 110).
CAUTION! The IP-SystemManager must not be installed in the middle of the group bus line. It must be connected at one end of the group bus line, as it includes an integrated bus terminating resistor.
In nurse call systems without speech communication, connection "NF 1" is not used.
For permitted cable types, refer to the Technical manual.
Connector, 3-pole, for OSYnet. spare part order no. 00 0211 45; Connector, 4-pole, for NF. Spare part order no. 00 0211 36.

***Connections "OSYnet 2" and "NF 2"**

Not used.

Connection "Ethernet"

Connection to the LAN networking all IP-SystemManagers as well as other IP based devices linked to the nurse call system.
Ethernet, 10/100 Mbit LAN connection, RJ45 socket.
Maximum cable length: 90 m.
Patch cable, at least cat. 5e.

***Connection "RS232 A"**

ESPA 4.4.4 protocol.
E. g. connection of radio paging system, DECT system, fire detection system or medical electrical equipment.
Maximum cable length: 10 m
Conductor cross-section: 0.14 mm² – 1.5 mm²
Connector, 5-pole. spare part order no.: 00 0211 37.

***Connection "RS232 B"**

As "RS232 A", but for a second system.

DE - Installationsanleitung

D Anschließen

1. Die Anschlusskabel auf geeignete Länge abmanteln. Kabelschirm und Beidraht bis zum Kabelmantel entfernen. Adern 7 mm abisolieren.

Vorsicht! Wenn der IP-SystemManager ohne Einlegebrücken an den Spannungsanschlüssen betrieben wird, fließen hohe Betriebsströme des Systems über den IP-SystemManager. Die Elektronik des Gerätes kann dadurch zerstört werden. Die beiden Einlegebrücken **müssen** gemäß Abb. E eingelegt werden!

2. Adern gemäß Abb. D an den Anschlussklemmen (steckbare Schraubklemmen) anschließen.
3. Den RJ45-Stecker des Patchkabels in die Ethernet-Buchse einstecken.

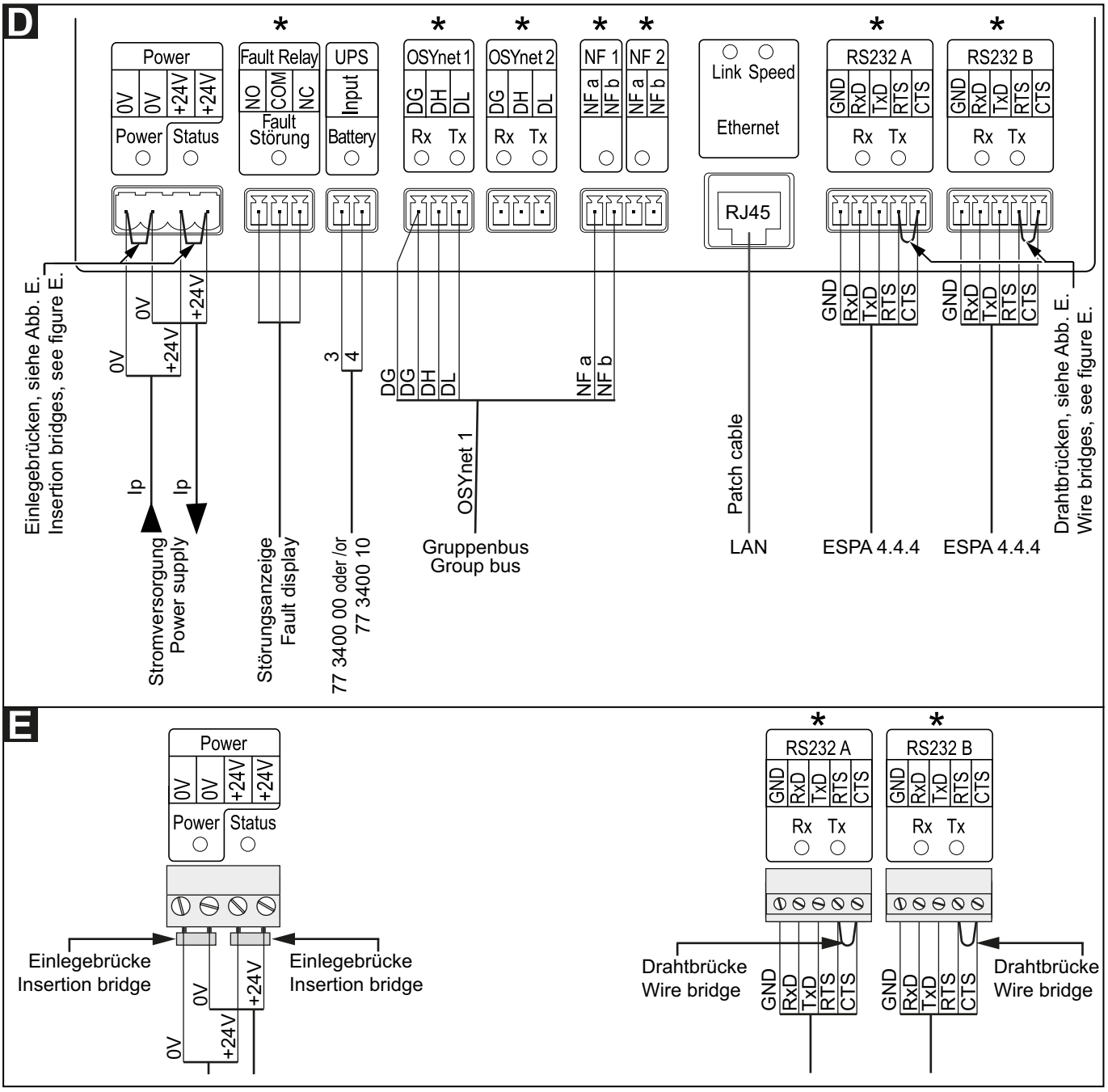
EN - Installation Instructions

D Connecting

1. Strip the connection cables to a suitable length. Remove the cable shield and drain wire up to the cable sheath. Strip off the wires 7 mm.

CAUTION! If the IP-SystemManager is operated without insertion bridges at the power connections, high operating currents from the system flow through the IP-SystemManager. This may damage the device. The two insertion bridges **must** be inserted according to fig. E!

2. Connect the wires to the connectors (pluggable screw-type connectors) according to fig. D.
3. Insert the patch cable's RJ45 plug into the Ethernet socket.



* Die mit einem Stern gekennzeichneten Anschlüsse sind nur aktiv, wenn der IP-SystemManager werkseitig dafür vorbereitet wurde, siehe projektspezifische Unterlagen.

*The connections marked with a star are only enabled, if the IP-SystemManager was prepared accordingly at the factory, refer to the project specific documents.

DE - Installationsanleitung

LED-Anzeigen

Grüne LED „Power“

LED leuchtet dauerhaft. = Stromversorgung am IP-System-Manager vorhanden.

Grüne LED „Status“

LED blinkt einmal pro Sekunde. = IP-SystemManager ist ok.

LED leuchtet dauerhaft oder ist aus. = Störung! IP-SystemManager ist nicht betriebsbereit.

Rote LED „Störung“ (parallel zu Ausgang „Fault Relay“)

LED leuchtet dauerhaft. = Mindestens eine Störung liegt vor.

Es handelt sich um eine Sammelanzeige. Die zugeordneten Störungsorte hängen von der Betriebsart (Operating Mode, siehe Geräteetikett) des IP-SystemManagers ab:

- Betriebsart „System“ oder „System + Local“

Sammelanzeige für Störungen in der gesamten Rufanlage. Angezeigte Störungsarten:

- OSYnet-Busteilnehmer defekt oder abgezogen.
- RAN-Busteilnehmer defekt oder abgezogen.
- Stromversorgung auf einer Station fehlt. Erkannt wird diese Störung indirekt aufgrund des Ausfalls beim OSYnet-Teilnehmer-Polling.
- Stromversorgung an einem IP-SystemManager fehlt. Erkannt wird diese Störung indirekt aufgrund des Ausfalls beim OSYnet-Teilnehmer-Polling.
- OSYnet-Busleitung unterbrochen.
- LAN-Verbindung zu einem IP-SystemManager unterbrochen.
- Ein IP-SystemManager ist nicht betriebsbereit.
- Das Netzgerät arbeitet im Akkubetrieb. Anzeige parallel zu der roten LED „Battery“.

- Betriebsart „Local“

Sammelanzeige für Störungen der Station, die an diesem IP-SystemManager angeschlossen ist. Angezeigte Störungsarten:

- OSYnet-Busteilnehmer defekt oder abgezogen.
- RAN-Busteilnehmer defekt oder abgezogen.
- Das Netzgerät arbeitet im Akkubetrieb. Anzeige parallel zu der roten LED „Battery“.

Hinweis! Bei IP-SystemManagern mit den Betriebsarten „BMA/MED“, „Voice Gateway“ und „Voice Gateway Master“ sind die rote LED „Störung“ und der Anschluss „Fault Relay“ inaktiv.

Rote LED „Battery“

LED leuchtet dauerhaft. = Das Netzgerät arbeitet im Akkubetrieb.

EN - Installation Instructions

LED displays

Green LED "Power"

LED lights up permanently. = Power supply available at the IP-SystemManager.

Green LED "Status"

LED flashes once a second. = IP-SystemManager is ok.

LED lights up permanently or is off. = Fault! IP-SystemManager is not operational.

Red LED "Fault" (in parallel to "Fault Relay" output)

LED lights up permanently. = There is at least one fault.

This is a collective indicator. The assigned fault locations depend on the operating mode (see device label) of the IP-SystemManager:

- Operating mode "System" or "System + Local"

Collective indicator for faults in the complete nurse call system. Indicated fault types:

- An OSYnet bus user is defective or disconnected.
- A RAN bus user is defective or disconnected.
- The power supply on a ward is interrupted. This fault is recognized indirectly by a failure in OSYnet bus user polling.
- The power supply at an IP-SystemManager is interrupted This fault is recognized indirectly by a failure in OSYnet bus user polling.
- An OSYnet bus line is interrupted.
- LAN connection to an IP-SystemManager is interrupted.
- An IP-SystemManager is not operational.
- The power supply unit is in battery mode. Indication in parallel to the red LED "Battery".

- Operating mode "Local"

Collective indicator for faults in the ward connected to this IP-SystemManager. Indicated fault types:

- An OSYnet bus user is defective or disconnected.
- A RAN bus user is defective or disconnected.
- The power supply unit is in battery mode. Indication in parallel to the red LED "Battery".

NOTE! The red LED "Fault" and the connection "Fault Relay" of IP-SystemManagers with operating mode "BMA/MED", "Voice Gateway" and "Voice Gateway Master" are inactive.

Red LED "Battery"

LED lights up permanently. = The power supply unit is in battery mode.

DE - Installationsanleitung

OSYnet 1: Grüne LED „Rx“, gelbe LED „Tx“

LEDs blinken. = Datenverkehr auf dem an „OSYnet 1“ angeschlossenen Gruppenbus.

Gelbe LED leuchtet dauerhaft. = Gruppenbus OSYnet 1 wurde noch nicht mit dem IP-SystemOrganizer konfiguriert.

OSYnet 2: Grüne LED „Rx“, gelbe LED „Tx“

Gelbe LED leuchtet dauerhaft. = Keine Nutzungslizenz zur Verwendung von OSYnet 2 aktiv.

Gelbe LED „NF 1“

LED leuchtet dauerhaft. = In der an OSYnet 1 angeschlossenen Gruppe gibt es eine Sprechverbindung oder Durchsage.

Gelbe LED „NF 2“

Nicht benutzt.

Ethernet, grüne LED „Link“, gelbe LED „Speed“

LEDs signalisieren „Link“ und „Speed“ des Ethernet-Anschlusses.

RS232 A, grüne LED „Rx“, gelbe LED „Tx“

LEDs blinken. = Datenverkehr zwischen dem IP-SystemManager und dem an „RS232 A“ angeschlossenen Gerät.

RS232 B, grüne LED „Rx“, gelbe LED „Tx“

Wie bei "RS232 A", jedoch für RS232 B.

EN - Installation Instructions

OSYnet 1: Green LED "Rx", yellow LED "Tx"

LEDs are flashing. = Data traffic on the group bus, connected to "OSYnet 1".

Yellow LED lights up permanently. = Group bus OSYnet 1 has not yet been configured with the IP-SystemOrganizer.

OSYnet 2: Green LED "Rx", yellow LED "Tx"

Yellow LED lights up permanently. = There is no active use licence for OSYnet 2.

Yellow LED "NF 1"

LED lights up permanently. = There is a speech connection or an announcement in the group connected to OSYnet 1.

Yellow LED "NF 2"

Not used.

Ethernet, green LED "Link", yellow LED "Speed"

The LEDs are signalling "Link" and "Speed" of the Ethernet connection.

RS232 A, green LED "Rx", yellow LED "Tx"

LEDs are flashing. = Data traffic between the IP-SystemManager and the device connected to „RS232 A“.

RS232 B, green LED "Rx", yellow LED "Tx"

As for "RS232 A", but for RS232 B.

F Serviceabdeckung

Die Serviceabdeckung [2] lässt sich durch Abhebeln entfernen. Nach Benutzung Serviceabdeckung wieder aufstecken.

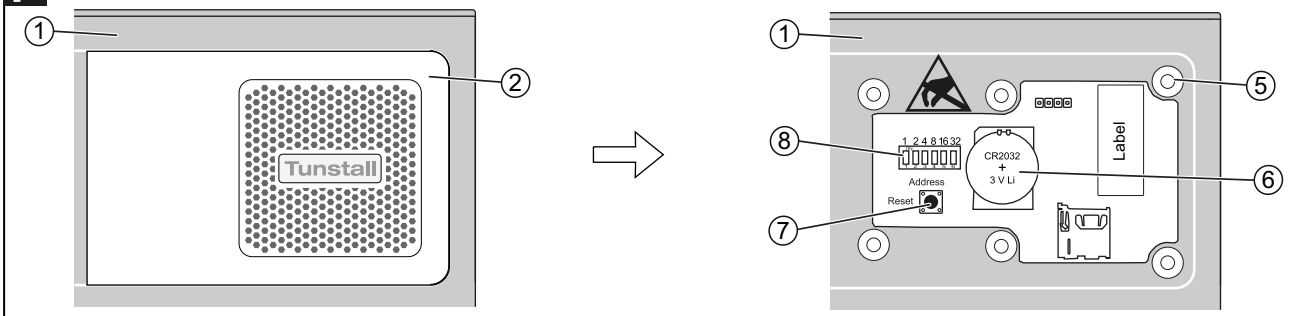
5 - 6 Tüllen zur Befestigung der Serviceabdeckung
6 - Li-Batterie, 3 V, CR2032, zur Pufferung der internen Uhr bei Stromausfall
7 - Reset-Taster
8 - DIP-Schalter für Adressierung: Werkseinstellung nicht verändern!

F Service cover

The service cover [2] is removed by levering off. After use reattach the service cover.

5 - 6 grommets for fixing the service cover
6 - Li battery, 3 V, CR2032, buffer for the internal clock in case of power failure
7 - Reset button
8 - DIP switch for addressing: Do not change the factory setting!

F



Technische Daten

Abmessungen (HxBxT):	132 x 216 x 48 mm
Gehäusematerial:	PS UL94-HB
Material der Serviceabdeckung:	ABS
Gewicht:	415 g
Schutzart:	IP 20
Nennspannung:	24 V DC
Zulässiger Spannungsbereich:	20 – 26 V DC
Umgebungstemperatur:	+5 °C – +40 °C
Relative Luftfeuchtigkeit:	0% – 85% (nicht kondensierend)
Ruhestromaufnahme:	120 mA

Technical data

Dimensions (HxWxD):	132 x 216 x 48 mm
Housing material:	PS UL94-HB
Service cover material:	ABS
Weight:	415 g
IP protection class:	IP 20
Nominal voltage:	24 V DC
Permitted voltage range:	20 – 26 V DC
Ambient temperature:	+5 °C – +40 °C
Relative humidity:	0% – 85% (non condensing)
Standby current consumption:	120 mA

Power supply unit UPS

Order no. 77 3400 00

Instruction manual

Content

1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property, and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also pass on this manual along with it.

Tunstall GmbH accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact Tunstall GmbH or visit our Internet site at:

www.tunstall.de

2 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind. Tunstall GmbH accepts no liability for any failure to observe the safety instructions.

2.1 Symbols used

The following symbols point to particular hazards involved in the use of the device or provide practical instructions

Warning!

This symbol, in connection with the signal word "Warning", indicates a dangerous situation which may lead to death or serious injury.

Caution! – damage to property

This symbol indicates a potentially damaging situation for the product. Failure to observe this may result in damage to or destruction of the product.

Note!
This symbol indicates useful information or references to additional topics. This is not a signal word for a dangerous situation.

This symbol indicates information on the protection of the environment.

This symbol indicates information on recycling raw materials.

The following symbols are used in the manual to draw attention to particular hazards:

This symbol indicates a dangerous situation due to electric current. If this kind of sign is ignored, serious injuries or even death may be the result.

This symbol indicates a dangerous situation due to leaking batteries. If this kind of sign is ignored, burns or poisoning may be the result.

2.2 Target group/Qualifications of personnel

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect the power
2. Secure against being reconnected
3. Ensure there is no power
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

2.3 Safety instructions

Warning!

» It is essential that you read the following safety instructions carefully before you start work. The information that follows is of a general nature. You will find specific warnings at the points in the text that describe the potentially dangerous actions.

» Electrical systems may only be constructed, extended, modified and maintained by an authorised group of personnel.

» **The power supply unit is intended for the use in an operating area with restricted access.**

» **The power supply unit is suitable for mounting above a non-combustible surface only.**

» Work must only be carried out when the system has been disconnected from the power. Before starting installation and service work, the input voltage must be disconnected and secured to prevent it being reconnected. Failure to observe this may result in persons touching live parts or experiencing serious injury.

» The supply voltage must be connected in accordance with the regulations that apply in the country concerned (in Germany's case, these are VDE 0100 and VDE 0160).

» Protective and isolation equipment for disconnecting the input voltage must be provided.

» If the values specified in the technical data are exceeded, there is the risk of the device overheating, which may result in the supply voltage device being destroyed and the electrical safety being impaired.

» Safe isolation of the AC and DC supplies must be ensured at the premises.

» General safety instructions on handling batteries must be observed. In particular, it is important to ensure that sufficient ventilation is available to prevent the build-up of explosive hydrogen and air mixtures.

3 Information on protection of the environment

The products comply with legal requirements, in particular the laws governing electronic and electrical devices and the REACH regulation (EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS), (EU REACH Directive and Law for the Execution of the Regulation (EC) No. 1907/2006).

The device contains valuable raw materials which can be recycled. Used electric and electronic devices must not be disposed of with domestic waste.

» Always dispose of the packaging material and electric devices and their components via authorised collecting depots or disposal companies.

3.1 Disposing of batteries

Lead-acid AGM batteries contain harmful substances. These have the potential to damage the environment and pose a risk to human health.

The bin icon means that these batteries must not be disposed of in household waste.

The "PB" designation under the bin indicates that the battery contains lead.

End users are legally required to take used batteries to a suitable collecting depot.

If batteries are being disposed of in the Federal Republic of Germany, the Batteries Act (in the most recent version of June 2012) must be observed. When disposing of batteries elsewhere in the EU, refer to the national implementation of Directive 2006/66 EC that applies in each case. When disposing of batteries in other economic regions, observe the regulations that apply in those cases.

Used batteries contain valuable raw materials that can be recycled.

4 Device description

The power supply unit UPS consists of a power supply unit and an uninterruptible power supply (UPS) within the same housing.

An output voltage of 24 V DC is generated from an input voltage of 115 - 230 V AC. If the mains input voltage fails or drops below around 90 V AC, the connected DC load continues to be supplied without interruption by two lead-acid batteries.

The bridging time depends on the connected load and the batteries' state of health.

5 Mounting

The power supplyunit UPS is designed for wall mounting using the mounting material supplied with it. You should check the mounting wall beforehand to verify whether it is suitable for fixing the power supply onto it:

Weight of the power supply unit UPS: 8.5 kg,

Dimensions: 244 x 325 x 178 mm.

Insufficient air convection may result in the power supply unit being destroyed. For this reason, you must observe the following points:

» The ventilation openings on the device must be located at the top and bottom.

» You must ensure that air can circulate sufficiently above and below the device. Therefore, there must be a distance of at least 50 mm between the device and other devices or walls.

» Do not cover the ventilation outlets under any circumstances.

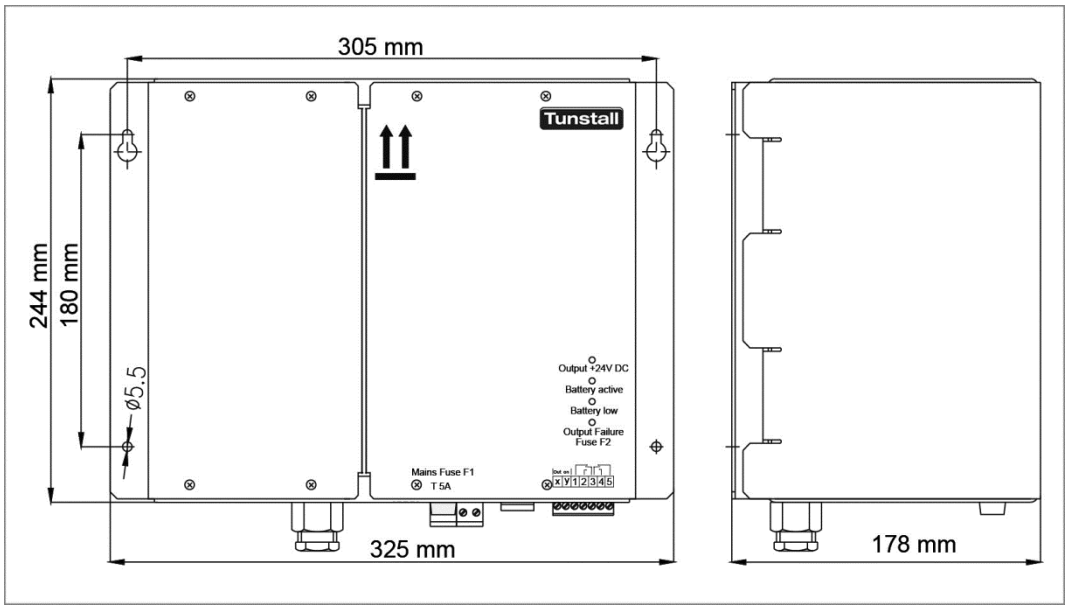


Fig. 1*: Dimensional drawing*

6 Connections and commissioning

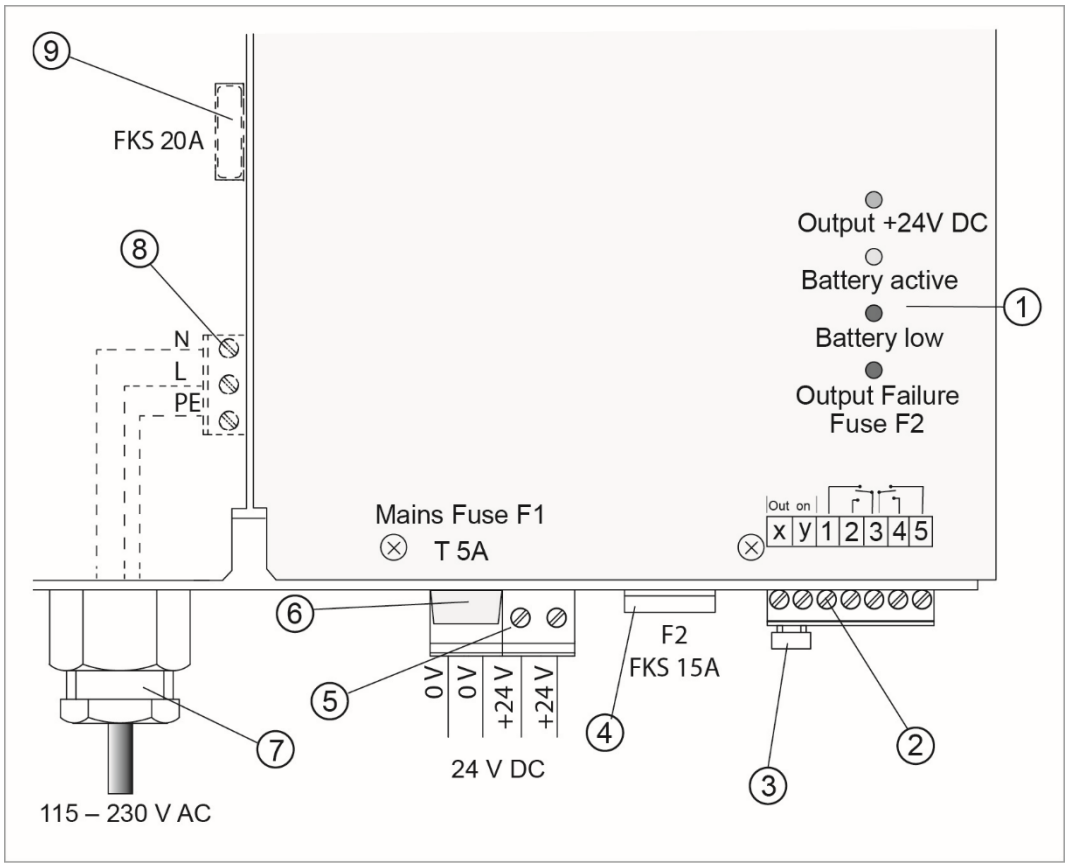


Fig. 2: Connections, fuses and LED displays

1	**LED displays**	6	**Mains fuse F1: (20 x 5) T 5A** (spare part order no. 00 0130 41)
2	**Signalling outputs** Plug-in screw-type terminal, 7-pole (spare part order no.: 00 0211 39)	7	**Cable screw gland for mains connection cable**
3	**Insertion bridge for control terminals "x" and "y"** (spare part order no.: 00 0223 56)	8	**Mains supply** Plug-in screw-type terminal, 3-pole (spare part order no. 00 0211 40)
4	**Output fuse F2: FKS 15A** (spare part order no.: 00 0132 02)	9	**Internal battery fuse: FKS 20A** (spare part order no. 00 0132 03)
5	**24 V connection** Plug-in screw-type terminal, 4-pole (spare part order no.: 00 0211 41)		

Tab.1: Connections, fuses and LED displays

6.1.1 Output terminals (5) 24 V DC / 12 A

The power supply unit UPS provides a controlled output voltage of 24 V DC, max. 12 A.

If a load current of approximately 12 A is exceeded, the output voltage reduces at a constant current according to the resistance value of the connected overload.

» Connect the load to terminals "+24 V" and "0 V" (provided twice).

6.1.2 Signalling outputs (2) and LED displays (1)

The five signalling terminals (1 - 5) on the 7-pole terminal (2) use potential-free relay contacts to indicate the device status. These contacts may be subjected to a maximum load of 30 V DC/1 A.

LED lights up	Status	Output voltage	Switched contacts (NO)
Green, "Output +24V DC"	Mains operation	+24 V DC	3 – 5
Yellow, "Battery active"	Battery operation	+20 V [1] – 24 V DC	3 – 4
Yellow, "Battery active" and red, "Battery low"	Battery empty	-	3 – 2
Red, "Battery low" (checked every 15 minutes)	Battery defective	-	3 – 2 (checked every 15 minutes)
Red, "Output Failure Fuse F2"	F2 failure. Output fuse F2 has been removed or is defective.	0 V	-

Tab.2: Signalling outputs and LED displays

[1] At an output voltage of around 20 V, the power supply unit UPS automatically switches off completely (total discharge protection).

6.1.3 Mains supply (8)

Risk of electric shock!

When carrying out the following steps, you must ensure that the mains connection cable to be connected to the power supply is disconnected from the mains.

Failure to observe this may result in persons touching live parts or experiencing serious injury.

1. Remove the four fastening screws from the left housing cover and remove the cover by pulling it towards you.

- It will now be possible to access the terminal (8) for the mains supply.

2. Guide the mains connection cable through the cable screw gland (7) and into the device, then connect it to the terminal for the mains supply (8) as indicated on the imprint.

Risk of electric shock!

You must ensure that the processes of connection and mounting the protective conductor connection are carried out safely.

3. Secure the mains connection cable to prevent it being pulled out: use the cable screw gland (7), for example.
4. If the battery fuse FKS 20A (9) is not inserted in the fuse holder, insert it now.
5. Replace the left housing cover and screw in the four fastening screws tightly.

6.1.4 Commissioning

1. Activate the UPS function at control terminals x + y (3).

The device is activated for UPS operation at control terminals "x" and "y" (3).

» To activate the UPS function, attach the 7-pole terminal (2) provided together with the insertion bridge (3), or close control terminals "x" and "y" using a potential-free normally open contact.

- The UPS function is now activated. Note: The UPS function is not ready until the mains voltage has been switched on at least once. The current through the insertion bridge is approximately 1 mA in this case.

2. Switch on the mains voltage.

Once all the connections have been established as described and the UPS function has been activated, switch on the mains voltage:

» Switch on the mains voltage.

- A voltage of 24 V DC is at the connections. The green "Output +24V DC" LED (1) lights up when there is voltage at the output.
- The power supply unit UPS is in operation.

3. Test the UPS function.

The UPS function is ready when the mains voltage has been switched on at least once. Perform a functional test:

» Switch off the mains voltage.

- The connected nurse call system is supplied by the batteries until the mains voltage is switched on or until the total discharge protection disconnection function is activated.
- The yellow "Battery active" LED (1) lights up.

» Switch the mains voltage back on.

7 Decommissioning

7.1 Temporarily switching off the power supply UPS

1. Switch off the mains voltage.
2. Revoke the UPS function enabling (remove the insertion bridge (3)); otherwise, the load will continue to be supplied by the batteries until the total discharge protection disconnection function is activated.

7.2 Decommissioning the power supply unit UPS for storage purposes

If the power supply unit UPS is not going to be used for some time, the power supply unit batteries must be fully charged first to prevent self-discharge causing damage to them.

Before decommissioning:

1. To charge the batteries, connect the power supply unit UPS to the input voltage (115 – 230 V) at least 4 hours before decommissioning.
2. Disconnect the power supply unit UPS from the mains.
3. Revoke the UPS function enabling (remove the insertion bridge (3)); otherwise, the load will continue tob e supplied by the batteries until the total discharge protection disconnection function is activated.

If the batteries are being stored for an extended period, they must be recharged every 6 months.

8 Replacing batteries

8.1 Battery life

The power supply unit UPS is equipped with maintenance-free, valveregulated lead-acid (VRLA) AGM batteries. Based on their EUROBAT classification, these batteries have a service life of 3 - 5 years. Their usable life is highly dependent on temperature (up to 20°C: 4 - 6 years; see Fig. 3). The capacity of the batteries is around 60% after 3 - 5 years.

We recommend replacing the batteries every 2 years as part of regular maintenance.

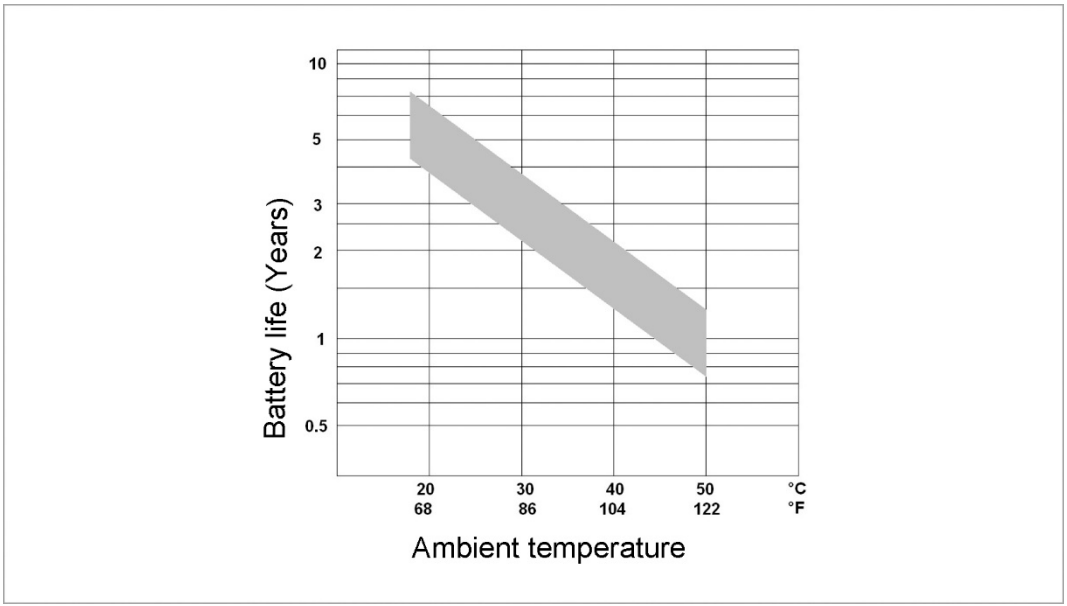


Fig. 3: Battery life as a function of the ambient temperature

If the system is not going to be used for some time, the batteries must be fully charged first to prevent self-discharge causing damage to them; see Chapter 7.2, page 15.

8.2 Replacing batteries

Lead-acid AGM batteries contain hazardous, poisonous substances. When handling the batteries, and during transport and disposal, local regulations must be adhered to.

Warning!

Batteries are subject to the risk of an excessively high short-circuit current. To prevent this, do not connect anything between the battery contacts and other conductive parts.

» For this reason, you should remove any watches, bracelets, rings and other metal objects before starting work on the open interruptible power supply.

» Only use tools with handles that have standard insulation.

The batteries must only be replaced with the original battery set (order no. 00 0648 85). Other batteries may result in problems because of their connections and dimensions.

Risk of electric shock!

Before opening the housing of the power supply unit UPS, you must disconnect it from the power. Failure to observe this may result in persons touching live parts or experiencing serious injury.

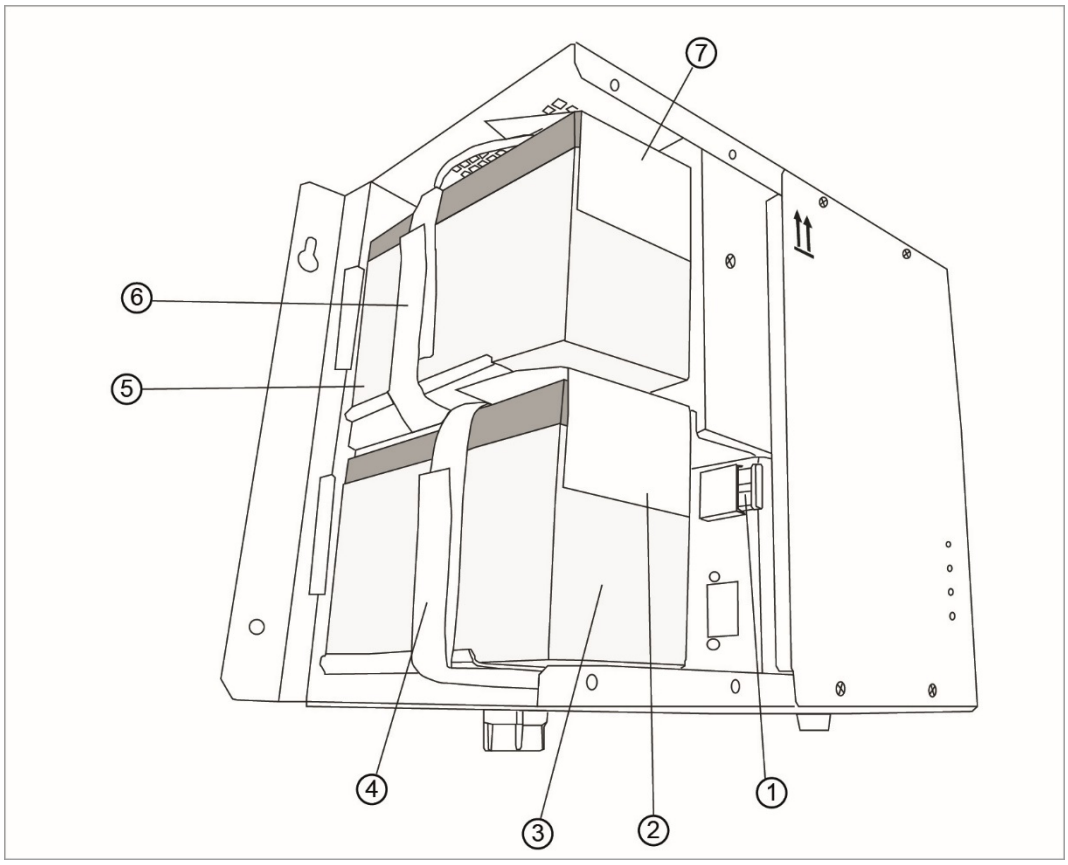


Fig. 4: Installation position of the batteries

1	Internal battery fuse: FKS 20A (spare part order no. 00 0132 03)	5	Top battery
2	Plastic cover for the bottom battery	6	Hook and loop strap on the top battery
3	Bottom battery	7	Plastic cover for the top battery
4	Hook and loop strap on the bottom battery		

Tab.3: Installation position of the batteries

1. Disconnect the power supply UPS from the power.
2. Remove the four fastening screws from the left cover and remove the cover by pulling it towards you.
3. Remove the battery fuse FKS 20A (1).
4. Document the installation direction and connection polarity of the used batteries.
5. Remove the used batteries. To do this, detach each of the hook and loop straps first.
6. Insert the new batteries, using the same installation direction as the ones that have been removed, and ensure that the connection polarity is correct. Reversing the polarity of the batteries may result in the power supply unit UPS being destroyed. Ensure the plastic cover for the batteries is attached correctly.
7. Secure the hook and loop strap again to hold the batteries in place.
8. Insert the battery fuse FKS 20A (1) in the fuse holder.
9. Replace the housing.
10. It necessary to perform a functional test of the power supply unit UPS.

9 Technical data

Input	
Nominal voltage	115 - 230 V AC
Nominal voltage range	90 - 264 V AC
Input frequency	47 - 63 Hz
Output	
Nominal current	12 A DC
Output voltage in mains operation	24 V DC +/- 2%
Output voltage in battery operation	Typ. 26.5 – 20 V DC
Rated output power	288 W
Ripple for nominal output current	< 20 mVeff
Battery capacity	7 Ah
Charging current	Typ. 600 mA, temperature-dependent
Bridging time for nominal current	Approx. 17 min
Battery voltage thresholds	
Switching threshold for UPS operation	Ue < 92 V AC
Switching threshold for warning prior to battery switch-off	Typ. 22 V
Switching threshold for total discharge protection	Typ. 20 V
EMC CE-certified	EN 55022; EN 61000-3-2, -3; EN 61000-4-2, -3, -4, -5, -6, -11
Safety	EN 60950-1
Output	Safety Extra Low Voltage (SELV)
Testing voltage PRI – SEC	2 kV
Protection class	Class I
Degree of protection	IP 20
General	
Permissible ambient temperature in operation	0 ... +40°C
Permissible ambient temperature during storage and transport	-25 ... + 40°C (for optimum battery life: cool and dry)
MTBF	200,000 h ati 25°C (without batteries)

Power supply unit

Order no. 77 3401 00

Instruction manual

Content

1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property, and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also pass on this manual along with it.

Tunstall GmbH accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact Tunstall GmbH or visit our Internet site at:

www.tunstall.de

2 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind. Tunstall GmbH accepts no liability for any failure to observe the safety instructions.

2.1 Symbols used

The following symbols point to particular hazards involved in the use of the device or provide practical instructions.

Warning!

This symbol, in connection with the signal word "Warning", indicates a dangerous situation which may lead to death or serious injury.

Caution! – damage to property

This symbol indicates a potentially damaging situation for the product. Failure to observe this may result in damage to or destruction of the product.

Note!
This symbol indicates useful information or references to additional topics. This is not a signal word for a dangerous situation.

This symbol indicates information on the protection of the environment.

This symbol indicates information on recycling raw materials.

The following symbol is used in the manual to draw attention to particular hazards:

This symbol indicates a dangerous situation due to electric current. If this kind of sign is ignored, serious injuries or even death may be the result.

2.2 Target group/Qualifications of personnel

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect the power
2. Secure against being reconnected
3. Ensure there is no power
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

2.3 Safety instructions

Warning!

» It is essential that you read the following safety instructions carefully before you start work. The information that follows is of a general nature. You will find specific warnings at the points in the text that describe the potentially dangerous actions.

» Electrical systems may only be constructed, extended, modified and maintained by an authorised group of personnel.

» **The power supply unit is intended for the use in an operating area with restricted access.**

» **The power supply unit is suitable for mounting above a non-combustible surface only.**

» Work must only be carried out when the system has been disconnected from the power. Before starting installation and service work, the input voltage must be disconnected and secured to prevent it being reconnected. Failure to observe this may result in persons touching live parts or experiencing serious injury.

» The supply voltage must be connected in accordance with the regulations that apply in the country concerned (in Germany's case, these are VDE 0100 and VDE 0160).

» Protective and isolation equipment for disconnecting the input voltage must be provided.

» If the values specified in the technical data are exceeded, there is the risk of the device overheating, which may result in the supply voltage device being destroyed and the electrical safety being impaired.

» Safe isolation of the AC and DC supplies must be ensured at the premises.

3 Information on protection of the environment

The products comply with legal requirements, in particular the laws governing electronic and electrical devices and the REACH regulation (EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS), (EU REACH Directive and Law for the Execution of the Regulation (EC) No. 1907/2006).

The device contains valuable raw materials which can be recycled. Used electric and electronic devices must not be disposed of with domestic waste.

» Always dispose of the packaging material and electric devices and their components via authorised collecting depots or disposal companies.

4 Device description

The power supply unit generates an output voltage of 24 V DC from an input voltage of 115 – 230 V AC. An integrated monitoring circuitry limits the output current to 12 A DC nearly. Two LEDs on the front face indicate the status at the output terminals.

5 Mounting

The power supply unit is designed for wall mounting using the mounting material supplied with it. You should check the mounting wall beforehand to verify whether it is suitable for fixing the power supply onto it:

Weight of the power supply unit: 2.9 kg,

Dimensions: 244 x 325 x 178 mm.

Insufficient air convection may result in the power supply unit being destroyed. For this reason, you must observe the following points:

» The ventilation openings on the device must be located at the top and bottom.

» You must ensure that air can circulate sufficiently above and below the device. Therefore, there must be a distance of at least 50 mm between the device and other devices or walls.

» Do not cover the ventilation outlets under any circumstances.

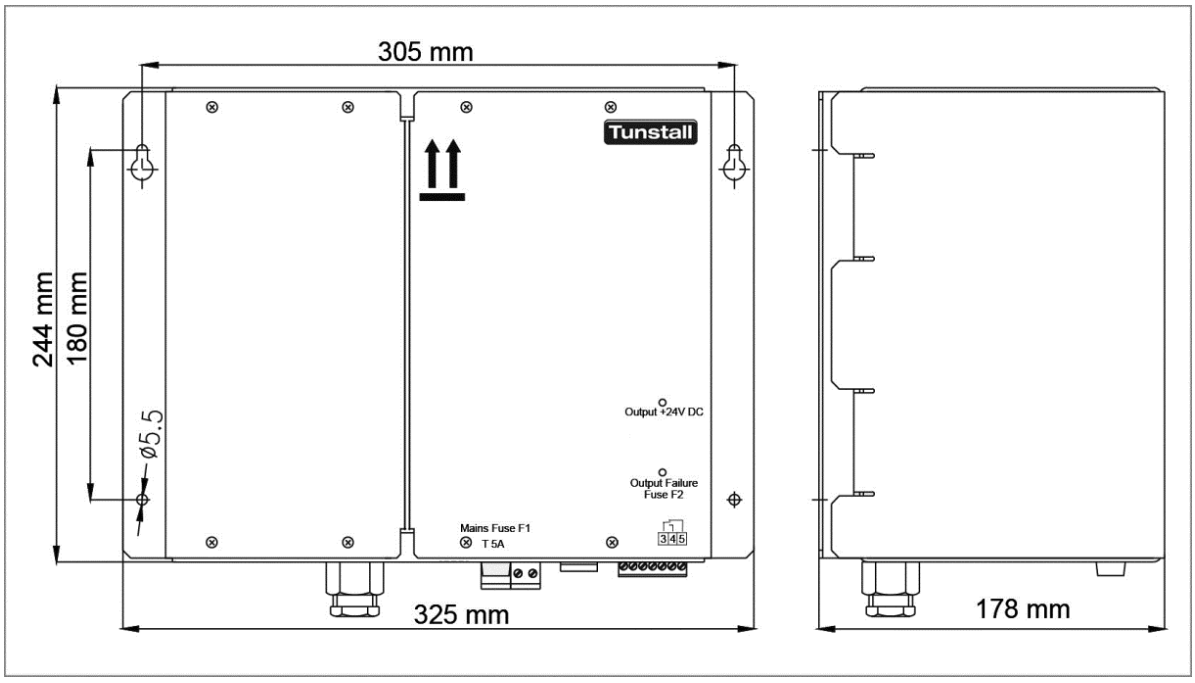


Fig. 1*: Dimensional drawing*

6 Connections and commissioning

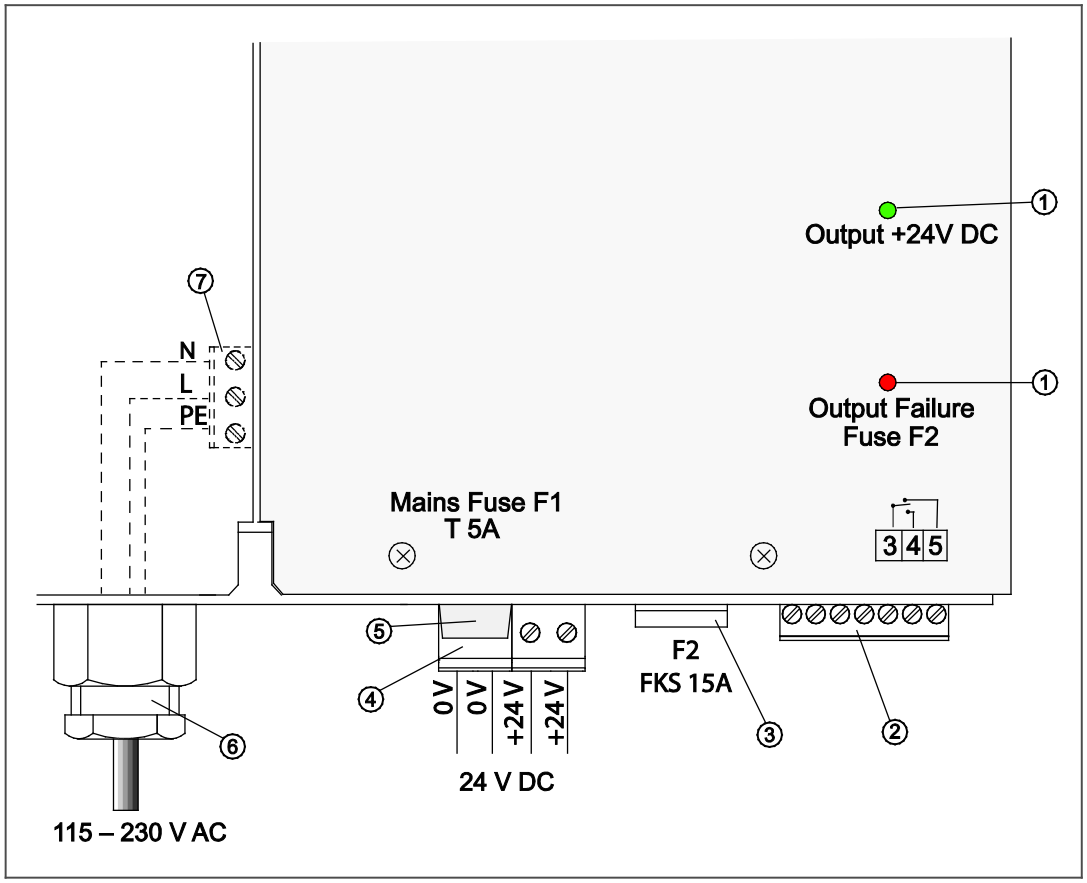


Fig. 2: Connections, fuses and LED displays

1	**LED displays**	5	**Mains fuse F1: (20 x 5) T 5A** (spare part order no. 00 0130 41)
2	**Signalling outputs** Plug-in screw-type terminal, 7-pole (spare part order no.: 00 0211 39)	6	**Cable screw gland for mains connection cable**
3	**Output fuse F2: FKS 15A** (spare part order no.: 00 0132 02)	7	**Mains supply** Plug-in screw-type terminal, 3-pole (spare part order no. 00 0211 40)
4	**24 V connection** Plug-in screw-type terminal, 4-pole (spare part order no.: 00 0211 41)		

Tab.1: Connections, fuses and LED displays

6.1.1 Output terminals (4) 24 V DC / 12 A

The power supply unit UPS provides a controlled output voltage of 24 V DC, max. 12 A.

If a load current of approximately 12 A is exceeded, the output voltage reduces at a constant current according to the resistance value of the connected overload.

» Connect the load to terminals „+24 V“ and „0 V“ (provided twice).

6.1.2 Signalling outputs (2) and LED displays (1)

The signalling outputs and the LED displays indicate the device status. The signaling outputs use potential-free relay contacts to indicate the device status.

These contacts may be subjected to a maximum load of 30 V DC/1 A.

LED display	Status	Output voltage	Switched contacts (NO)
Green LED „Output +24 V DC“ is on.	Mains operation.	+24 V DC	3 – 5
Green LED „Output +24 V DC“ is off.	No mains supply.	0 V	3 – 4
Red LED „Output Failure Fuse F2“ is on.	F2 failure. Output fuse F2 has been removed or is defective.	0 V	-

Tab.2: Signalling outputs and LED displays

6.1.3 Mains supply (7)

Risk of electric shock!

When carrying out the following steps, you must ensure that the mains connection cable to be connected to the power supply is disconnected from the mains.

Failure to observe this may result in persons touching live parts or experiencing serious injury.

1. Remove the four fastening screws from the left housing cover and remove the cover by pulling it towards you.

- It will now be possible to access the terminal (7) for the mains supply.

2. Guide the mains connection cable through the cable screw gland (6) and into the device, then connect it to the terminal for the mains supply (7) as indicated on the imprint.

Risk of electric shock!

You must ensure that the processes of connection and mounting the protective conductor connection are carried out safely.

3. Secure the mains connection cable to prevent it being pulled out: use the cable screw gland (6), for example.
4. Replace the left housing cover and screw in the four fastening screws tightly.

6.1.4 Commissioning

» Once all the connections have been established as described, switch on the mains voltage.

- A voltage of 24 V DC is at the connections. The green "Output +24V DC" LED (1) lights up when there is voltage at the output.
- The power supply unit is in operation.

7 Technical data

Input	
Nominal voltage	115 – 230 V AC
Nominal voltage range	90 – 264 V AC
Input frequency	47 – 63 Hz
Output	
Nominal current	12 A DC
Output voltage in mains operation	24 V DC +/- 2%
Rated output power	288 W
Ripple for nominal output current	< 20 mVeff
EMC CE-certified	EN 55022; EN 61000-3-2, -3; EN 61000-4-2, -3, -4, -5, -6, -11
Safety	EN 60950-1
Output	Safety Extra Low Voltage (SELV)
Testing voltage PRI – SEC	2 kV
Protection class	Class I
Degree of protection	IP 20
General	
Permissible ambient temperature in operation	0 ... +40 °C
Permissible ambient temperature during storage and transport	-25 ... + 40 °C
MTBF	200,000 h at 25°C

Power supply unit UPS 60, Order No. 77 3400 10

The power supply unit UPS 60 is a power supply unit and includes the electronics that builds up an uninterrupted power supply (UPS) in combination with battery set for UPS 60 (order no. 77 3450 00). Input voltage of 115 - 230 V AC is transformed into 24 V DC output voltage. The UPS feature ensures the supply of the connected DC users also in case of a mains power failure.
If the mains input voltage fails or when it drops to less than 90 VAC, the two connected lead batteries will continue to supply the users without any interruption.
To protect the batteries from going flat, circuit breakers will open when during the UPS mode the output voltage drops below to 19.5 V. When the mains supply voltage is active again, the system reverts to its normal operating mode.
Roughly, every 15 minutes, an integrated test circuitry performs a voltage check at the battery terminals, the connections and at the circuit breakers. Upon the return of the mains supply current, the battery is isolated from the outputs, and the internal charging module recharges the battery.

Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state. However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind. Tunstall GmbH accepts no liability for any failure to observe the safety instructions.

Target group / Qualifications of personnel

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.
The electrical installer must have read and understood the manual and follow the instructions provided.
The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of elec-trical products.
The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):
1. Disconnect the power
2. Secure against being reconnected
3. Ensure there is no power
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

Safety instructions

- Electrical systems may only be constructed, extended, modified and maintained by an authorised group of personnel.
- **The power supply unit is intended for the use in an operating area with restricted access.**
- **The power supply unit is suitable for mounting above a non-combustible surface only.**
- Work must only be carried out when the system has been disconnected from the power. Before starting installation and service work, the input voltage must be disconnected and secured to prevent it being reconnected. Failure to observe this may result in persons touching live parts or experiencing serious injury.
- The supply voltage must be connected in accordance with the regulations that apply in the country concerned (in Germany's case, these are VDE 0100 and VDE 0160).
- Protective and isolation equipment for disconnecting the input voltage must be provided.
- If the values specified in the technical data are exceeded, there is the risk of the device overheating, which may result in the supply voltage device being destroyed and the electrical safety being impaired.
- Safe isolation of the AC and DC supplies must be ensured at the premises.
- General safety instructions on handling batteries must be observed. In par-ticular, it

is important to ensure that sufficient ventilation is available to pre-vent the build-up of explosive hydrogen and air mixtures.

- If the power supply unit UPS 60 will not be used for a longer time, first the batteries have to be fully charged. After that the power supply unit UPS 60 has to be disconnected from the mains supply. Furthermore the battery connection cable must be disconnected from the battery set for UPS 60 (see chapter 2.1). Alternatively the battery fuse in the battery set for UPS 60 can be removed.

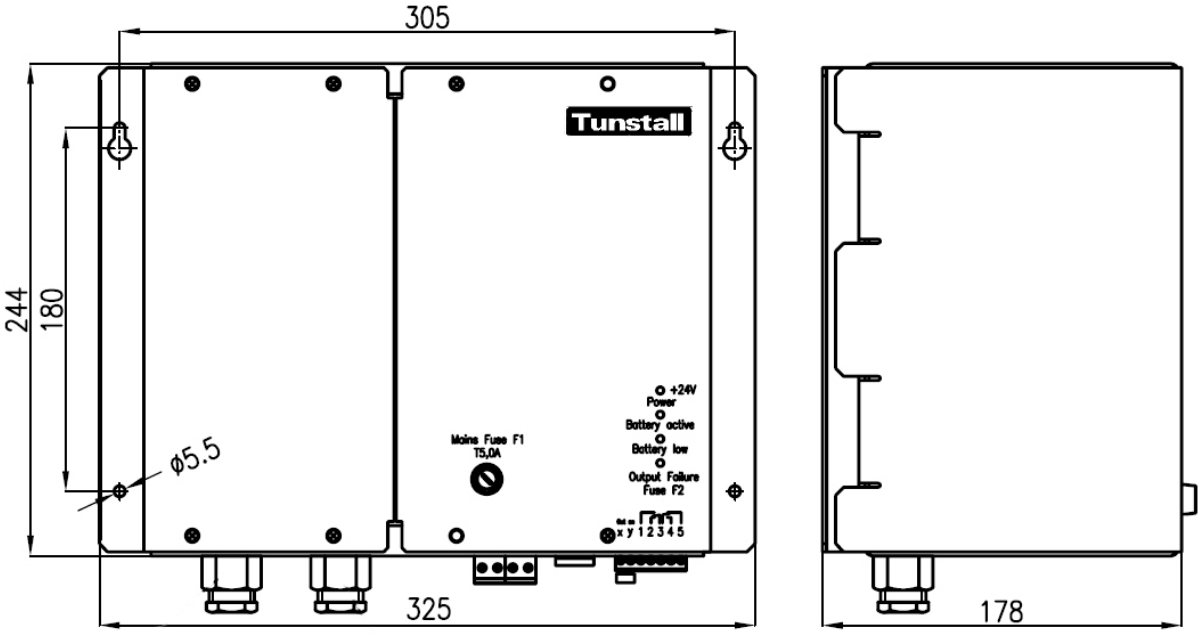
1. Mounting

The power supply unit UPS 60 is designed for wall mounting. Boreholes are prepared at the housing for fixing the unit at the wall using the enclosed mounting material. A dimensional drawing is shown below.
Before mounting, check the condition of the wall itself.
The power supply unit UPS 60 weighs approx. 4 kg.

The unit must be mounted such that the venting ports are at the top and bottom.

The selected location must ensure sufficient air circulation above and below the unit. Therefore, check for minimum distance of 50 mm to walls, ceiling and other equipment. The venting ports must not be covered up. Insufficient air circulation may lead to damage to the power supply unit.

Dimensional drawing:



2. Connection

The internal connection terminals are provided as screw/plug-in clamps and cage clamp/plug-in clamps.

2.1 Mains and battery connection

You have to ensure, that the mains cable is disconnected from the AC supply voltage during the following procedure:

1. Release 4 screws for the left cover and remove the cover to the front.
   Now, the terminal connection clamps for the mains connection are accessible.
2. Direct the mains connecting cable through the right cable duct into the housing and connect to the mains terminal posts (3 pole) as designated in the housing.

CAUTION! Check for the correct and positive connection of the protective conductor.

3. Secure the mains connecting cable against being pulled from the housing for example by fixing the installation cable with the screwed cable gland.
4. Ensure that the battery fuse FKS 20A is removed from the fuse holder located between the two batteries in the Battery Set for UPS 60.
5. Direct the battery connecting cable through the left smaller cable duct into the housing and connect to the battery terminal posts (2 pole) as designated in the housing

CAUTION! Check for the correct connection, orientation and locking with srews.

6. Secure the battery connecting cable against being pulled from the housing for example by fixing the installation cable with the screwed cable gland.
7. Insert the battery fuse FKS 20A in the fuse holder located between the two batteries in the Battery Set for UPS 60.

2.2 Output terminal clamps 24 V DC / 12.5 A

The output voltage is generated via a primary pulse controller. This controller provides the output voltage of 24 V DC with 12.5 A current (for continuous operation considering all tolerance criteria). When in mains operation, the electronic module monitors the output voltage. When the load current exceeds approx. 12.5 A, the output voltage is reduced with keeping a constant current depending on the value of resistance of the connected overload.
Further to this, the output current is limited by a 15 A flat fuse "F2". After the cause for the overload has been eliminated the output voltage reverts to the must value 24 V. It is a self-reverting output voltage.

- The load shall be connected to the terminal clamps "+24V" and "0V" (provided 2 x).

2.3 Control terminal clamps x + y

The control terminal clamps "x" and "y" are used to prepare the unit for the uninterrupted power supply (UPS mode).

2.3.1 Preparing the UPS function by placing a bridge contact between "x" and "y"

- Connect the control terminal clamps "x" and "y" using the enclosed bridging contact or via a potential-free 'make contact'. The current for the bridging contact is approx. 1 mA.

2.3.2 LED and indicator outputs 1 - 5

The five indicator outputs 1 – 5 at the 7-pole terminal block indicate the status of the unit via potential-free relay contacts. The current load for these contacts is up to 125 V / 1.5 A / 60 VA.

Illuminated LED	Status	Output voltage	Switched contacts (NO)
Green „+24 V Power“	Mains mode	+24 V DC	3 – 5
Yellow „Battery active“	Battery mode	+19.5 [1]) – 24 V DC	3 – 4
Yellow „Battery active“ and Red „Battery low“	Battery low	-	3 – 2
Red „Battery low“ for 30 s every 15 minutes	Battery defective	-	3 – 2 (for 30 s every 15 min)
Red „Output Failure Fuse F2“	Fault F2 Output fuse F2 was removed or it is defective.	0 V	-
No LED	Power supply unit is off and battery is low or UPS function is not prepared		3 – 2 and 3 – 4

[1]) When the output voltage has dropped to approx. 19.5 V, the power supply unit will shut off (protection against totally flat battery).

2.3.3 Battery test

The unit features an automatic battery load test. For this, the connected batteries' status is checked at regular intervals (approx. 15 minutes).
This takes place by voltage measuring while simultaneously demanding a defined load current for a period of approx. 30 sec.
If during this test the battery voltage should drop below approx. 21.5 V, the indicating contact (3 – 2) "Battery low" is reversed and this shows that the battery capacity will not sustain a UPS operating mode.
This warning will be indicated for the said test period of approx. 30 sec. or until the battery voltage has been increased to approx. 23 V. This may also take place when the battery voltage rises during a recharging process after previous discharging, e.g. in the course of UPS operation.
This warning message is reset after the test phase and will be reactivated again during the next battery load test. This is the reason for the cyclic indication of the battery fault as described above.

The battery load test is an effective instrument for checking the true battery state. A negative result, i.e. a warning message is issued, may be caused by one or more of the following:

- Charge status too low.
- Battery fuse has failed.
- Battery not correctly connected.
- Battery is defective.
- Battery is too old, and must be replaced.

3. Commissioning

1. Connect input, output and battery terminal connections (refer to items 2.1 and 2.2).
2. Switch on the input voltage (115 – 230 Volt).
   From now on, the connected nurse call system devices are supplied with 24 V DC.
3. *The green LED "Power" is on due to the voltage at the terminal clamps.*
   If the red LED "Battery low“ is on, the UPS function is not yet active
   (Place the bridging contact x – y).
4. *Now the power supply unit UPS is fully operational.*

4. Shutting the power supply UPS 60 off

1. Shut off the input voltage (115 – 230 Volt).
2. Remove the UPS function acc. to item 2.3.1 (Remove the bridging contact), otherwise the load for the user circuits will be supplied through the battery until the total discharge circuit disconnects the battery.

5. Service

We recommend replacing the batteries every 2 years as part of regular maintenance.

6. Battery service life

The batteries connected to the power supply unit UPS 60 are maintenance-free, valve regulated lead acid type (VRLA) AGM batteries. Based on their EUROBAT classification, these batteries have a service life of 3 - 5 years. Their usable life is highly dependent on temperature (up to 20°C: 4 - 6 years; see diagram 1). The capacity of the batteries is around 60% after 3 - 5 years.

If the system will not be used for an extended period of time, the batteries should be fully charged to prevent a total discharge. (Refer to item 7 "Storage") While the system is not used, the battery fuse has to be removed to prevent total discharge.

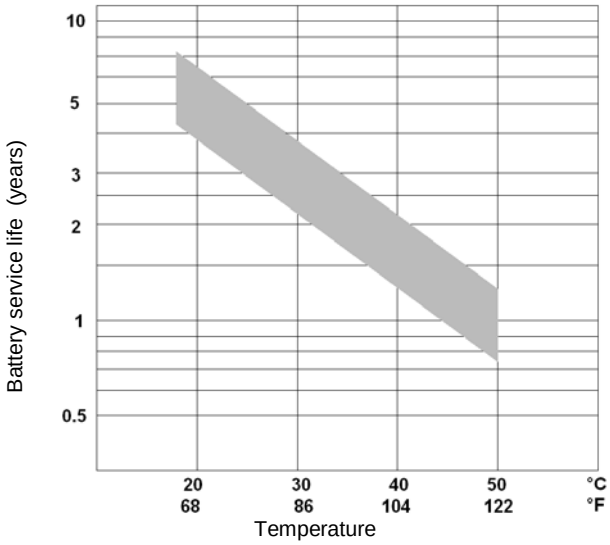


Diagram 1: Battery service life in relation to ambient temperature

6.1 Battery change

Lead-acid AGM batteries contain harmful toxic substances. Observe valid safety directives when during handling and transport. For disposal, comply with local directives.

Batteries bear the risk of excessive short-circuit currents. Never create any direct contact between the battery posts and or other conductive component parts. Therefore, remove any wristband, watch, finger rings or other metal objects when working at the open unit. Always use tools with standard isolating handles.

Batteries may be replaced only by the same type of battery (2 x 12 V; 24 Ah). We recommend the use of two batteries type BAT 12-24, Tunstall Order No. 00 0648 87. The use of other makes may create problems due to different connecting terminals or differing dimensions.

1. Shut off mains supply to the power supply unit UPS 60 !!!
2. Refer to the information for the battery set for UPS 60, order no. 77 3450 00.
3. Perform a functional check of the power supply UPS 60!

7. Storage

If the power supply unit UPS 60 will not be used for an extended period of time, the connected batteries must **first** be fully recharged to preclude battery damage due to total discharging. (Refer to item 6 Battery service life).

- For the charging process, the power supply unit UPS 60 shall be connected to the mains supply for at least 4 hours, and the UPS function shall be activated by placing the bridging contact between "x“ and "y“.
- While the power supply unit UPS 60 is not used, the power supply unit UPS 60 must be disconnected from the batteries of battery set for UPS 60 to prevent total discharge.

8. Spare parts

Spare part	Order No.
Mains fuse, front plate (5 x 20) T 5.0 A	00 0130 41
Output fuse, bottom 15 A FKS	00 0132 02
Clamp for mains connection, 3-pole	00 0211 40
Clamp for 24 V connection, 4-pole	00 0211 41
Clamp for control and indicator outputs, 7-pole	00 0211 39
Clamp for battery connection, 2 pole	00 0211 20
Bridging contact EB 2 – 5 for control clamps "x“ and "y“	00 0223 56

9. Technical data

Input	
Nominal input voltage	115 – 230 V AC
Input voltage range	90 – 264 V AC
Input frequency	47 – 63 Hz
Input current	5.5 A at 115 V AC / 3 A at 230 V AC
Start-up current surge	22 A at 115 V AC / 44 A at 230 V AC, typical
Power factor	0.95 at 230 V AC / 0.98 at 115 V AC for full load
Output	
Nominal current	12.5 A DC
Output voltage in mains mode	24 V DC +/- 2%
Output voltage in battery mode	26.5 – 19.5 V DC, typical
Calculated output power	288 W
Rippling of nominal output current	< 100 mV_{eff}
Battery capacity to be connected	24 Ah
Charge current	Typ. 3.0 A, temperature-dependent
Bridging time at nominal current	approx. 1 hour
Battery voltage thresholds	
Switching threshold for UPS mode	U_a < 22.5 V, typical
Switching threshold for warning before battery shut-down	21.5 V, typical
Switching threshold for total discharge protection	19.5 V, typical
EMC CE-certified	EN 55022 Class B; ENV 50204 EN 61000-3-2, -3; EN 61000-4-2, -3, -4, -5, -6, -8, -11
Safety	**EN 60950**
Output	Safety Extra Low Voltage, SELV
Test voltage PRI – SEC	3 kV
Protection class	I
Ingress Protection	IP 20
General	
Permissible ambient temperature in operation	0 ... +40°C
Permissible ambient temperature during storage and transport	-25 … +40°C
MTBF	100,000 hours

Battery Set for UPS 60, Order No. 77 3450 00

The battery set for UPS 60 are rechargeable batteries (= accumulators) that build an uninterrupted power supply (UPS) in combination with the power supply unit UPS 60, order no. 77 3400 10.
If the mains input voltage fails or when it drops to less than 90 VAC, the two lead-acid AGM batteries will continue to supply the users connected to the power supply unit UPS 60 without any interruption.

Safety instructions

- The battery set may only be used together with the power supply unit UPS 60, order no. 77 3400 10. The safety instructions delivered with this power supply unit have to be observed as well.
- Electrical systems may only be constructed, extended, modified and main-tained by an authorised group of personnel.
- **The power supply unit UPS 60 and the battery set for UPS 60 are intended for the use in an operating area with restricted access.**
- **The power supply unit UPS 60 and the battery set for UPS 60 are suitable for mounting above a non-combustible surface only.**
- Work must only be carried out when the system has been disconnected from the power. Before starting installation and service work, the input voltage of the power supply unit UPS 60 must be disconnected and secured to prevent it being reconnected. The battery fuse (located between the batteries) has to be removed. Failure to observe this may result in persons touching live parts or experiencing se-rious injury.
- If the values specified in the technical data are exceeded, there is the risk of the device overheating, which may result in the supply voltage device being destroyed and the electrical safety being impaired.
- Always watch for the safe isolation of AC and DC circuits!
- General safety instructions on handling batteries must be observed. In par-ticular, it is important to ensure that sufficient ventilation is available to pre-vent the build-up of explosive hydrogen and air mixtures.
- If the battery set for UPS 60 will not be used for a longer time, first the batteries have to be fully charged. After that the batteries must be disconnected from the mains supply. This can be done by disconnecting the battery connection cable from the power supply unit UPS 60 (see chapter 2.). Alternatively the battery fuse can be removed.

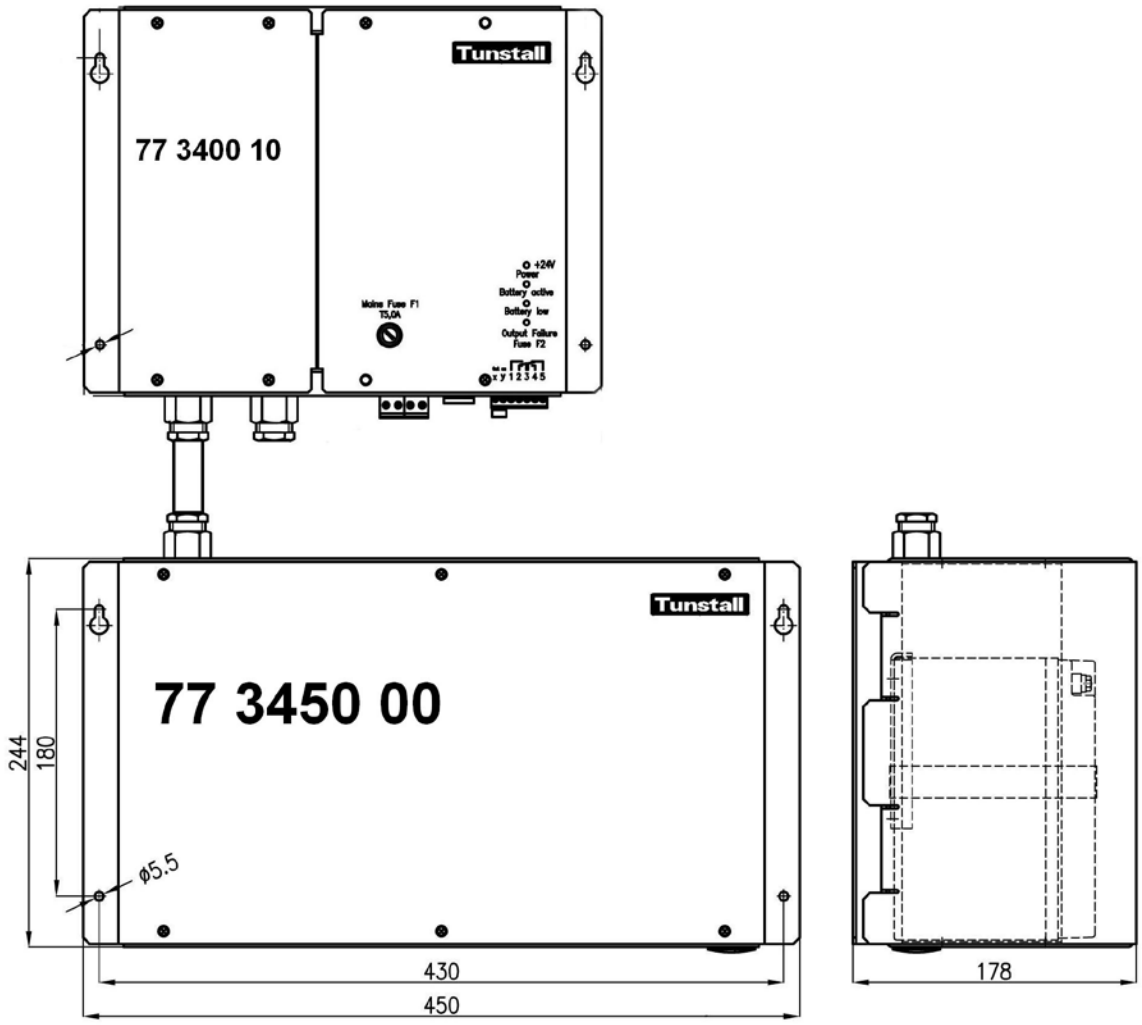
1. Mounting

The battery set for UPS 60 is designed for wall mounting. Boreholes are prepared at the housing for fixing the unit at the wall – preferably under the power supply unit UPS 60 - using the enclosed mounting material. A dimensional drawing is shown on the next page.
Before mounting, check the condition of the wall itself.
The battery set for UPS 60 weighs approx. 25.2 kg.

The unit must be mounted such that the venting ports are at the top and bottom.

The selected location must ensure sufficient air circulation above and below the unit. Therefore, check for minimum distance of 50 mm to walls, ceiling and other equipment. The venting ports must not be covered up. Insufficient air circulation may lead to damage to the unit.

Dimensional drawing:



2. Connection

The connection terminals are provided as screw/plug-in clamps.

1. Release six fastening screws for the cover and remove the cover to the front.
2. Ensure that the battery fuse FKS 20A is removed from the fuse holder located between the two batteries.

Now, the terminal connection clamps are accessible.

3. Direct the connection cable through the cable duct into the power supply unit and connect to the appropriate terminal posts as designated in the power supply unit.

CAUTION! Check for the correct connection, orientation and screwing.

4. Secure the connection cable against being pulled from the housing for example by fixing the installation cable with the screwed cable gland.
5. Insert the battery fuse FKS 20A in the fuse holder located between the two batteries.

2.1 Battery test

The power supply unit UPS 60 features an automatic battery load test. The battery load test is an effective instrument for checking the true battery state. A negative result, i.e. a warning message is issued, may be caused by one or more of the following:

- Charge status too low.
- Battery fuse has failed.
- Battery not correctly connected.
- Battery is defective.
- Battery is too old, and must be replaced.

3. Service

We recommend replacing the batteries every 2 years as part of regular maintenance.

4. Battery service life

The battery set UPS 60 comes with maintenance-free, valve regulated lead acid type (VRLA) AGM batteries. Based on their EUROBAT classification, these batteries have a service life of 3 - 5 years. Their usable life is highly dependent on temperature (up to 20°C: 4 - 6 years; see diagram 1). The capacity of the batteries is around 60% after 3 - 5 years.
If the system will not be used for an extended period of time, the batteries should be fully charged to prevent a total discharge. (Refer to item 5 "Storage") While the system is not used, the battery fuse (located between the two batteries) has to be removed to prevent total discharge. After the charging process has been completed, the battery set for UPS 60 has to be disconnected from the power supply unit UPS 60 by disconnecting the battery connection cable (see chapter 2.) or by removing the battery fuse.

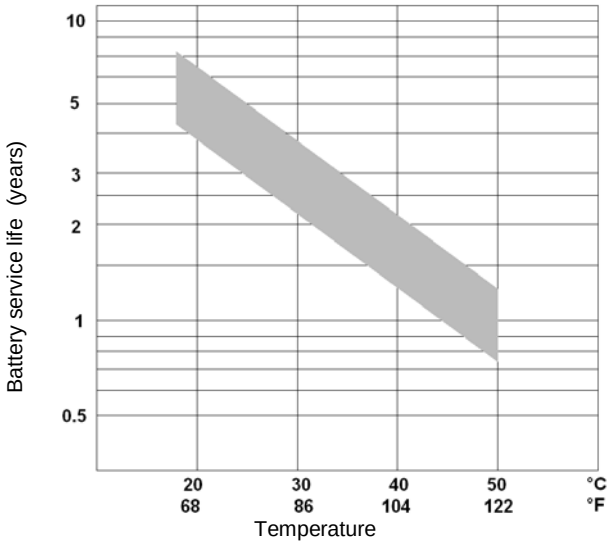


Diagram 1: Battery service life in relation to ambient temperature

4.1 Replacing batteries

Lead-acid AGM batteries contain hazardous, poisonous substances. When handling the batteries, and during transport and disposal, local regulations must be adhered to.

Warning!

Batteries are subject to the risk of an excessively high short-circuit current. To prevent this, do not connect anything between the battery contacts and other conductive parts.

For this reason, you should remove any watches, bracelets, rings and other metal objects before starting work on the open unit.

Only use tools with handles that have standard insulation.

Batteries may be replaced only by the same type of battery (2 x 12 V; 24 Ah). The batteries must only be replaced with the battery type BAT 12-24, Tunstall order no. 00 0648 87. Other batteries may result in problems because of their connections and dimensions.

Risk of electric shock!
Before opening the housing, you must disconnect the power supply unit UPS 60 from the power. Failure to observe this may result in persons touching live parts or experiencing serious injury.

1. Disconnect the power supply unit UPS 60 from the power.
2. Release the six fastening screws for the cover and remove the cover to the front.
3. Remove the battery fuse FKS 20A from the fuse-holder located between the two batteries.

4. Document the installation direction and connection polarity of the used batteries.
5. Remove the used batteries.
6. Insert the new batteries, using the same installation direction as the ones that have been removed, and ensure that the connection polarity is correct. Reversing the polarity of the batteries may result in the connected power supply unit UPS 60 being destroyed.
7. Put the rubber grommets back on the connection screws.
8. Fix the battery position by securing it with the Velcro tape.
9. Insert the battery fuse FKS 20A in the fuse holder.
10. Replace and close the housing.
11. Perform a functional check of the power supply unit UPS 60!

Disposing of batteries

Lead-acid AGM batteries contain harmful substances. These have the potential to damage the environment and pose a risk to human health.
The bin icon means that these batteries must not be disposed of in household waste.
The "PB" designation under the bin indicates that the battery contains lead.

PB

End users are legally required to take used batteries to a suitable collecting depot.
If batteries are being disposed of in the Federal Republic of Germany, the Batteries Act (in the most recent version of June 2012) must be observed. When disposing of batteries elsewhere in the EU, refer to the national implementation of Directive 2006/66 EC that applies in each case. When disposing of batteries in other economic regions, observe the regulations that apply in those cases.

5. Storage

If the battery set for UPS 60 will not be used for an extended period of time, the batteries must **first** be fully recharged by the power supply unit UPS to preclude battery damage due to total discharging. (Refer to item 4 Battery service life).

- For the charging process, the power supply unit UPS shall be connected to the mains supply for at least 4 hours, and the UPS function shall be activated by placing the bridging contact between "x“ and "y“.
- While the system is not used, the power supply unit UPS 60 must be disconnected from the batteris of the battery set for UPS 60 to prevent total discharge.

6. Spare parts

Spare part	Order No.
Rechargeable lead-acid battery, Type BAT 12-24 (2 batteries required)	00 0648 87
Battery fuse, internal 20 A FKS	00 0132 03
Clamp for battery connection, 2 pole	00 0211 20

7. Technical data

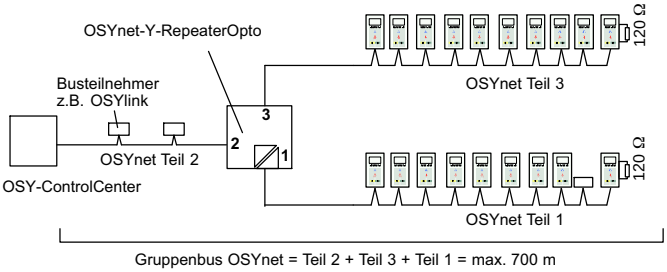
Input	
Nominal voltage	24 V DC
Output	
Nominal current	12.5 A DC
Output voltage	typ. 26.5 – 19.5 V DC
Battery capacity	24 Ah
Safety	**EN 60950**
Output	Safety extra low voltage, SELV
Protection class	III
Ingress Protection	IP 20
General	
Permissible ambient temperature in operation	0 ... +40°C
Permissible ambient temperature during storage and transport	-25 … +40°C (for optimum battery life: cool and dry)

Installationsanleitung D

OSYnet-Y-RepeaterOpto, Best.-Nr. 77 4000 00

Datenrepeater zur galvanischen Trennung des Gruppenbus (OSYnet). Vorgesehen zur Aufteilung und/oder Trennung des Gruppenbus OSYnet in 2 unabhängige Teilstrecken, Y-Verteilung. Einsetzbar einmal pro physikalischer Gruppe.

- Direkter Anschluss an den Gruppenbus (OSYnet) und dessen Teilstrecken.
- Hutschienenmontage 35 mm, anreihbar.
- Abmessungen (HxBxT): 85 x 25 x 83 mm
- Stromversorgung: 24 V DC (8 ... 30 V DC)
- Stromaufnahme (bei 20 °C): ca. 60 mA



Gruppenbus OSYnet = Teil 2 + Teil 3 + Teil 1 = max. 700 m

Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A OSYnet-Teilstrecken anschließen

Zum Schraubanschluss der OSYnet-Teilstrecken benötigen Sie drei OSYnet-Anschlussstecker , Best.-Nr. 77 0950 00.

Der Anschlusspunkt CAN Net 1 ist galvanisch von den anderen Teilen getrennt. Deshalb muss die Teilstrecke des OSYnet, die von den anderen galvanisch getrennt werden soll, an den Anschlusspunkt CAN Net 1 angeschlossen werden.

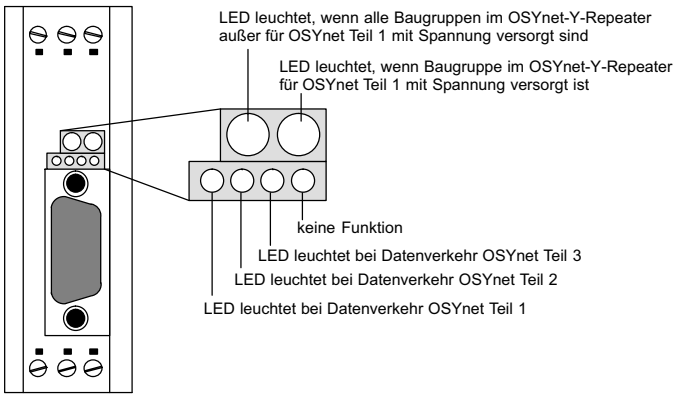
Die PIN-Belegungen entnehmen Sie der Abbildung **A**.

B Spannungsversorgung anschließen

Die Spannungsversorgung oben **oder** unten am OSYnet-Y-RepeaterOpto anschließen (Schraubanschluss).

Achtung! Die Spannungsversorgung darf nicht “durchgeschliffen” werden. D.h. es ist nicht erlaubt die eine Seite als 24V-Eingang und die andere Seite als 24V-Ausgang zu verwenden, um z.B. weitere Geräte zu versorgen.

C Kontroll-LEDs

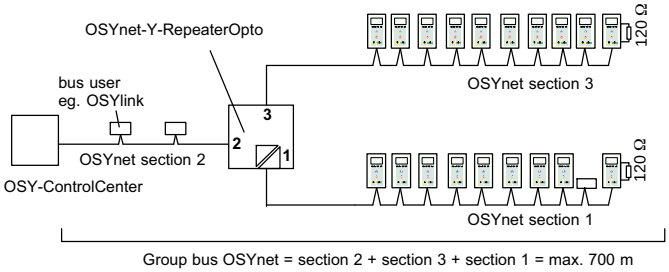


Installation Instructions GB

OSYnet-Y-RepeaterOpto, order no. 77 4000 00

Data repeater for electrical isolation of the group bus (OSYnet). Intended for branching and/or isolation of the group bus OSYnet into 2 autonomous sections, Y-branching. One repeater can be used per physical group.

- Direct connection to the group bus (OSYnet) and its branch sections.
- Mounting on top-hat rail (35 mm), several units can be mounted side-by-side.
- Dimensions (HxWxD): 85 x 25 x 83 mm
- Power supply: 24 V DC (8 ... 30 V DC)
- Current consumption (at 20 °C): approx. 60 mA



Group bus OSYnet = section 2 + section 3 + section 1 = max. 700 m

Note! The complete installation of the system is described in the technical manual.

A Connection of OSYnet sections

For screw connection of the OSYnet sections you need three OSYnet connecting plugs, order no. 77 0950 00.

Connection point CAN Net 1 is electrically isolated from the other parts. That’s why the OSYnet section, that should be electrically isolated from the others, has to be connected to connection point CAN Net 1.

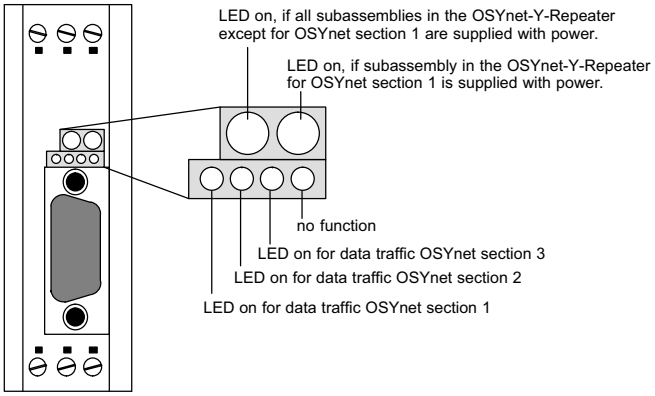
For the pin assignment refer to the figure **A**.

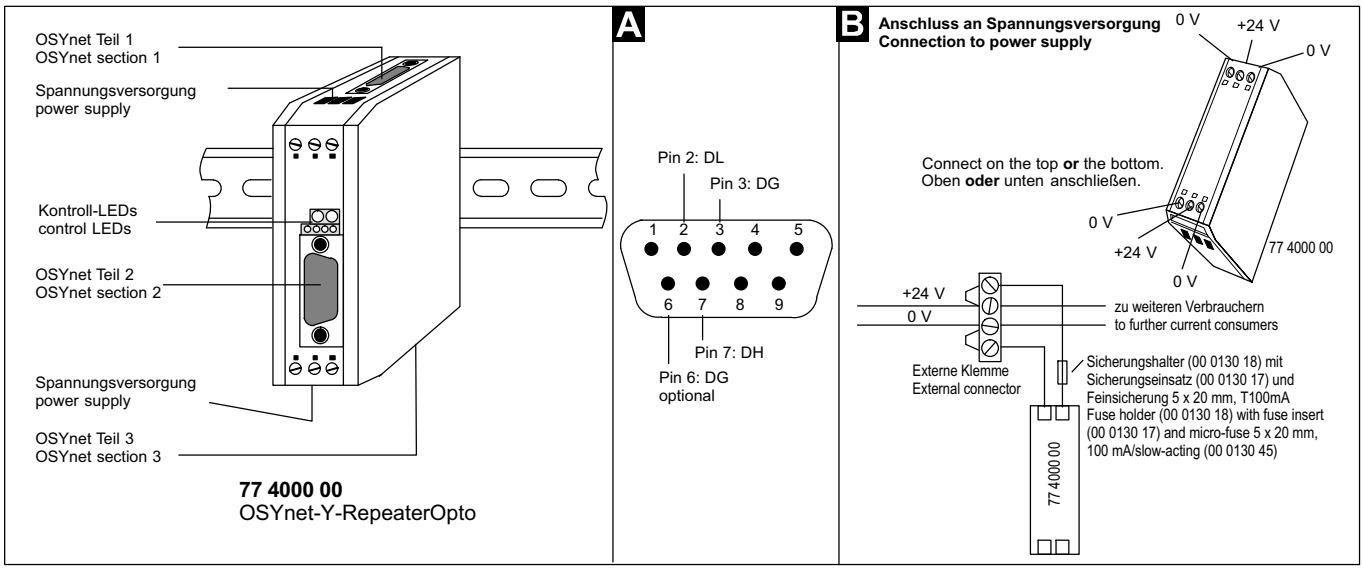
B Connection of power supply

Connect the power supply cable to the connection clamp on the top **or** the bottom of the OSYnet-Y-RepeaterOpto (screw connection).

Attention! The power supply may not be connected through. I.e. it is not allowed to use one connection clamp as 24 V input and the other connection clamp as 24 V output e.g. for supply of further devices.

C Control LEDs





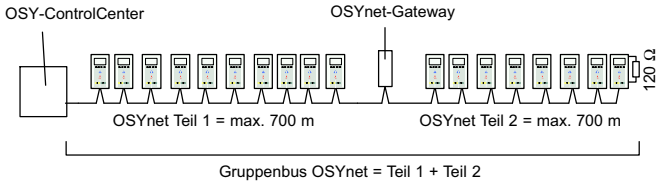
CE

Installationsanleitung D

OSYnet-Gateway, Best.-Nr. 77 4001 00

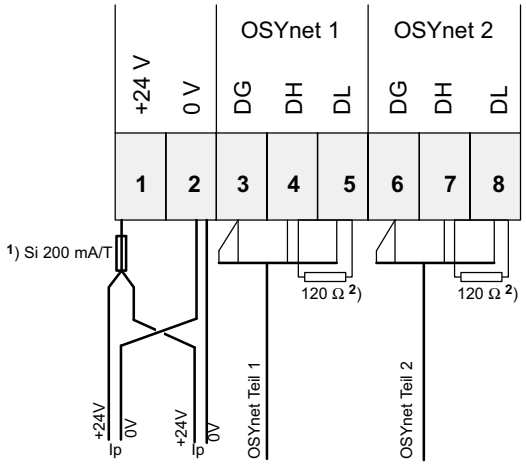
Aktives Gateway zur galvanischen Trennung des Gruppenbus OSYnet. Vorgesehen zur Verlängerung der max. Leitungslänge des Gruppenbus OSYnet um 700 m. Einsetzbar einmal pro physikalischer Gruppe.

- Direkter Anschluss an den Gruppenbus (OSYnet) und dessen Teilstrecken
- Hutschienenmontage 35 mm, anreihbar
- Abmessungen (HxBxT): 105 x 37 x 35 mm
- Stromversorgung: 24 V DC
- Max. Stromaufnahme (bei 20 °C): 50 mA



Hinweis! Die vollständige Installation des Systems ist im technischen Handbuch beschrieben.

A Anschlüsse



Ip = Spannungsversorgung = NYM 2x2,5mm²

1) Steck-Schraubklemme mit Si-Halter (00 0224 81), Sicherung 0,2 A Träge (00 0130 42)

2) Hinweis! Zwischen den Anschlusspunkten DH und DL von OSYnet 1 sowie zwischen den Anschlusspunkten DH und DL von OSYnet 2 muss jeweils ein Abschlusswiderstand gesetzt werden (120 Ohm, Bestell-Nr. 00 0040 76).

B Kontroll-LEDs

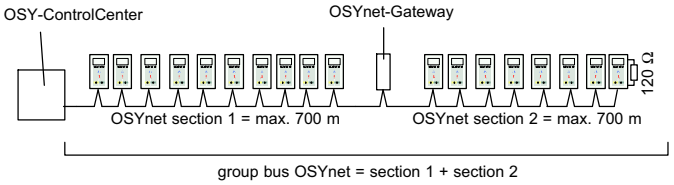
○ Power	LED leuchtet, wenn OSYnet-Gateway mit Spannung versorgt wird.
○ OSYnet 1 Active	LED leuchtet bei Datenverkehr OSYnet Teil 1
○ OSYnet 2 Active	LED leuchtet bei Datenverkehr OSYnet Teil 2

Installation Instructions GB

OSYnet-Gateway, order no. 77 4001 00

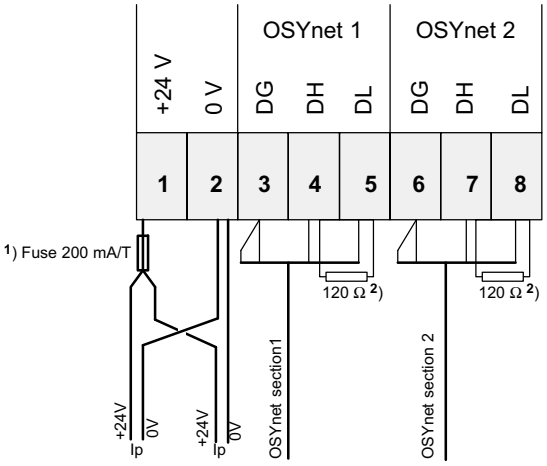
Active gateway for electrical isolation of the group bus (OSYnet). Intended for extension of the maximum cable length to additional 700 m. One gateway can be used per physical group.

- Direct connection to the group bus (OSYnet) and its branch sections
- Mounting on top-hat rail (35 mm), several units can be mounted side-by-side
- Dimensions (HxWxD): 105 x 37 x 35 mm
- Power supply: 24 V DC
- Max. current consumption (at 20 °C): 50 mA



Note! The complete installation of the system is described in the technical manual.

A Connections



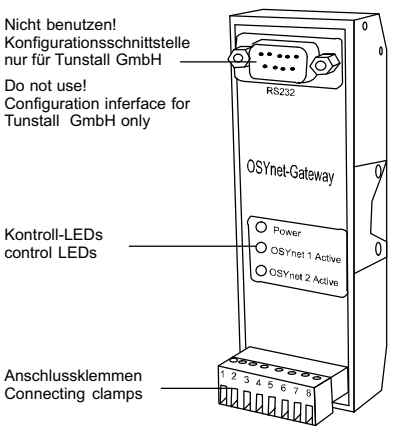
Ip = power supply = NYM 2x2,5mm²

1) Plug-in screw terminal with fuseholder (00 0224 81), fuse 0,2 A slow-acting (00 0130 42)

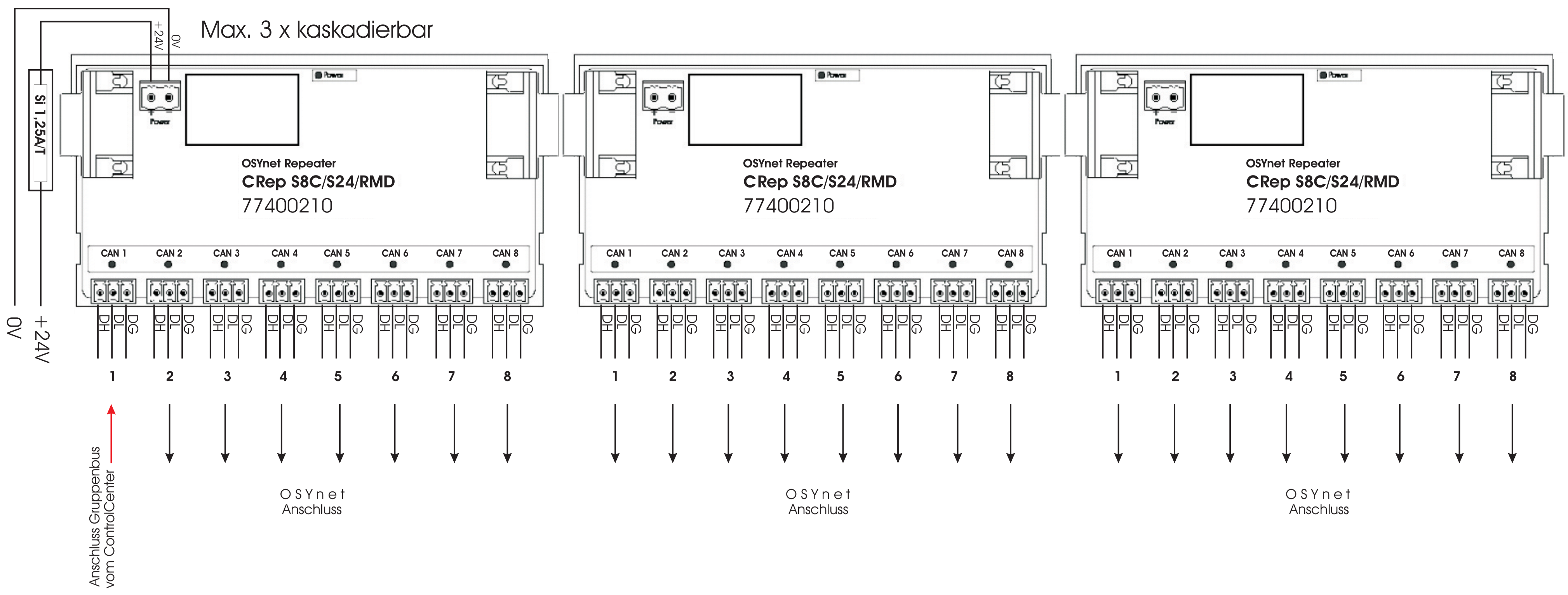
2) Note! The connection points DH and DL of OSYnet 1 as well as DH and DL of OSYnet 2 have to be connected by a terminating resistor (120 Ohm, order no. 00 0040 76) .

B Control LEDs

○ Power	LED on, if OSYnet-Gateway is supplied with power.
○ OSYnet 1 Active	LED on for data traffic OSYnet section 1
○ OSYnet 2 Active	LED on for data traffic OSYnet section 2



77 4001 00
OSYnet-Gateway



- Die einzelnen OSYnet-Anschlüsse↓ dürfen 100m mit max. 10 angeschlossene Teilnehmer (z.B. ComTerminal) nicht überschreiten.
- Die Unterstützung anderer Konstellationen ist möglich, müssen aber entsprechend durch die Fa. Tunstall bewertet/freigegeben werden.

- offene, nicht genutzte "CAN-Ausgänge" am Stern Repeater bleiben offen, werden nicht terminiert, da diese innerhalb einen Abschluss-Widerstand haben.
- am Ende der genutzten CAN-Leitungen (Stich) ist der Abschluss-Widerstand zu setzen.

Der Abschluss-Widerstand 120 Ohm wird zwischen den Anschlußpunkten DH und DL vom letzten Teilnehmer gesetzt.

Pin	Bezeichnung	Funktion
1	CAN_H	CAN-Datenleitung (dominant high)
2	CAN_L	CAN-Datenleitung (dominant low)
3	GND	Masse

Die folgende Tabelle beschreibt die Anschlussbelegung der Versorgungsspannung:

Pin	Bezeichnung	Funktion
1	Power +	Positive Versorgungsspannung +24V
2	Power -	Masseleitung 0V

Die Versorgungsspannung ist vom CAN-System galvanisch getrennt.

Verdrahtungsvorschlag

Aend.-I.	Art der Aend.	Datum	Name
Werkstoff	Norm		
	Gepr.	26.10.16	rm
Maße ohne Toleranzangabe nach DIN 7168 mittel	Gez.	26.10.16	WENDKER
		Datum	Name

Tunstall GmbH

ANSCHLUSSPLAN
8-Fach Stern-Repeater (OSYnet)

Art.-Nr.	Zeichn.-Nr.	Masstab
77 4002 10	97 1 1214 3 0 7	%

Table of contents for product leaflets

Table of contents for product leaflets

Table of contents for product leaflets

Tunstall GmbH
Orkotten 66
48291 Telgte, Germany
t: +49 (0) 2504/701-0
e: info@tunstall.de
w: tunstall.de