

tyco

*Fire & Integrated
Solutions*

ZETTLER® Medical® 800

Nurse call and care communication system



a vital part of your world



More time for care, more comfort for patients

Health care organisations are faced with increased demands: Longer life expectancy results in a growing number of people in need of care. Rising costs necessitate stringent savings measures. Personnel bottlenecks in stationary as well as ambulant care are the result. This, in turn, means that work procedures must become even more efficient. Our nurse call system provides some fundamental solutions: ZETTLER® Medical® 800.

ZETTLER® Medical® 800 is a nurse call and care communication system based on LON® bus technology. It provides numerous call functions, direct communication options, different answer variants and interfaces to other electronic systems. These essential features of ZETTLER® Medical® 800 help make care organisations more efficient while at the same time enhancing patient and personnel safety.

ZETTLER® Medical® 800 was developed for:

- Hospitals
- Sanatoriums and rehabilitation clinics
- Retirement and nursing homes
- Care organisations
- Assisted living developments
- Home care organisations

The nursing home building code prescribes the installation of a nurse call system in all of the care organisations listed above. DIN/VDE 0834 defines the performance features of call systems in hospitals, retirement and old people's homes, nursing homes and prisons. ZETTLER® Medical® 800 fulfills all requirements. We assure compliance with norms and standards for systems varying widely in size and functionality.

ZETTLER® Medical® 800 can be adapted to an institution's specific requirements. It may be configured as a nurse call system without voice function or as a combined nurse call and care communication system with voice support – handsfree calls to and from rooms or individual beds. Of course, combinations of these basic variants are also possible.





Many calls - always to the right address

The ZETTLER® Medical® 800 nurse call and care communication system allows you to configure numerous call options that combine safety in care with added patient comfort. The standard call types are included in the basic system configuration, but several special calls are predefined as well.

Service call for added convenience

The service call is forwarded to defined stations within the organisation or to external service providers. For example, this could be the maternity ward. With the ZETTLER® Medical® 800, a mother will contact the station nurse directly when she wishes to have her baby with her. The baby call appears on the Medical® 800 wall display or on a telephone display to inform the nurse so she can respond immediately.

Targeted information in an emergency

When a nurse triggers a cardiac call or reanimation call, the message is routed directly to a team of doctors: Immediate help is guaranteed. Other calls and messages, such as selective bed calls, perfusor calls, diagnostic calls, fire alarms, technical faults and special calls can all be configured with the same degree of precision.

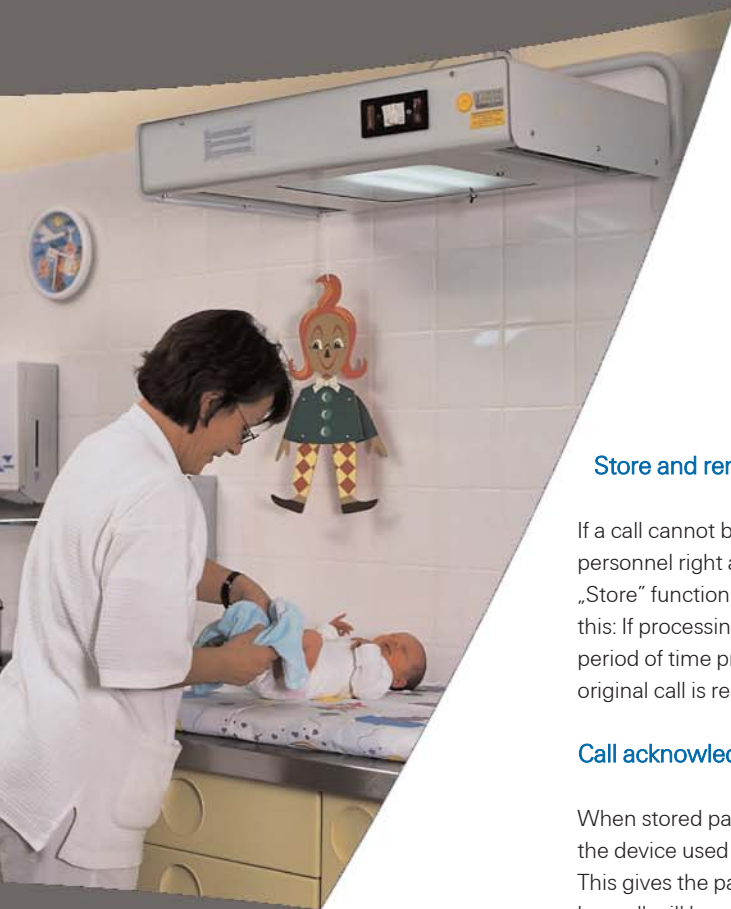
Calling other care personnel for help

If a nurse cannot leave his or her work area and needs help, a nurse emergency call can be automatically placed by pressing a button.

Intelligent wiring

A single call line of the communication system detects and transmits up to four different call types. By default, six call lines per room can be connected: a maximum of four bed calls, a room and a toilet call line.





Store and remind

If a call cannot be processed by the care personnel right away, it is relayed to the „Store“ function. Medical® 800 monitors this: If processing the call takes longer than a period of time preset in the system, the original call is reactivated.

Call acknowledgment signal

When stored patient calls exist, a lamp on the device used to trigger the call flashes. This gives the patient the certainty that his or her call will be answered.

Volume control

Three volume settings can be selected for the acoustic signal alerting the care personnel to a call being forwarded. During the night the signal is set to the lowest volume setting. Advantages: Patients are not disturbed, no care personnel calls are lost. The volume is controlled from the control stations.

Direct communication

Direct communication can greatly simplify care. Nurses use stationary and mobile control stations, the patient a handset. If Medical® 800 is networked with PABX and DECT systems, calls can also be answered via (mobile) telephones. Personnel on the move is able to answer and process calls at any time.

Complex networking

Interfaces to security systems, such as fire alarm systems and access control systems, door and access control call terminals, entertainment sound distribution systems and building management increase the performance of the communication system.



Safe investment in the future

The numerous networking options of ZETTLER® Medical® 800 are implemented using the LON® bus technology (Local Operating Network). Data transfer and power supply are handled very simply via standard telecommunication cables. Existing call and building management systems can be easily integrated via an interface.

Three-level safety system

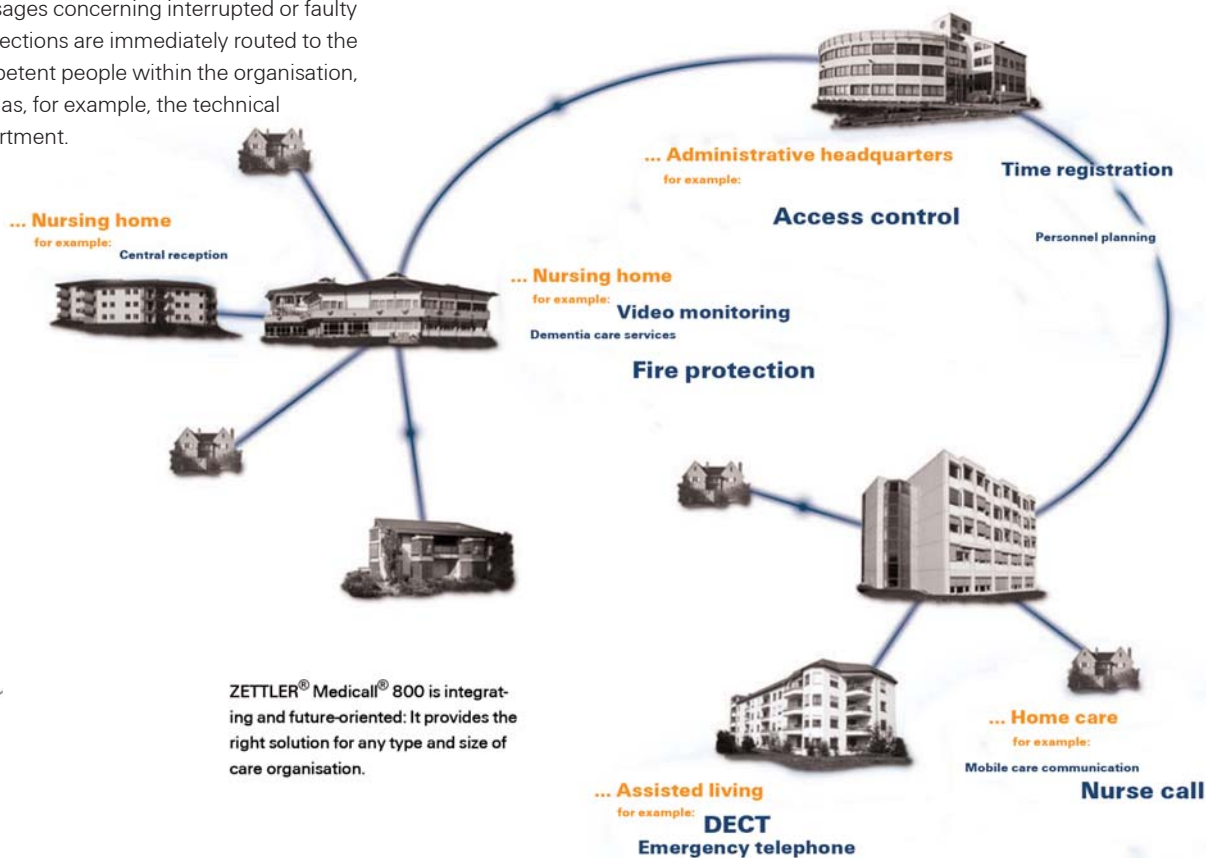
A three-level safety concept within the system makes sure that no call is lost. Each system node has an intelligence of its own and monitors itself as well as the system components necessary for communication. Failure of one node does not affect the functionality of the other stations on the bus. Messages concerning interrupted or faulty connections are immediately routed to the competent people within the organisation, such as, for example, the technical department.

The right solution for every requirement

Medical® 800 supports custom configurations: The maximum configuration covers 250 stations with 40 rooms each. Different care organisation variants, such as group care, decentralized station operation and combination of specific stations during the night can be preconfigured and activated automatically. A feature which is particularly helpful for ambulant care service providers: Even buildings at a different location can be easily integrated in the care communication system.

Future guaranteed – Medical® 800 grows right along

Medical® 800 grows with the requirements of the care organisation – simply by modification or integration of additional hardware and software modules. Making sure that your investment has a safe future.



Any call combination desired with ZETTLER® VarioLine



ZETTLER® VarioLine control units were developed to support a large number of call combinations in the nurse call system with a minimal effort. More than forty combinations can be implemented by means of simple keycap replacement and system reconfiguration. When the Medical® 800 nurse call system is adapted to changes in the care organisation, VarioLine permits enormous installation cost savings.

Cost effective – compatible – flexible

Since VarioLine consists of just a few basic elements, installation, storage and maintenance are extremely cost efficient. Compatibility with Medical® 800 and other call systems guarantees expandability. Another advantage: The visual appearance of the VarioLine control units can be adapted to switches already present in the room by exchanging covering plates.

Ready for use immediately

The VarioLine plug-in devices automatically detect which device is connected – from medical equipment to patient's handsets. Easily recognizable keycap symbols facilitate use by patients. The call lines are continuously monitored, so that calls, even right after reconfiguration, are never lost.

Pull cord panels for convenience

Pull cord panels for patients with restricted movement complete the VarioLine product range. They are particularly suitable for installation in shower cubicles.

Modern patient's handsets – communication and convenience combined

ZETTLER® Medical® 800 can be installed with the functionality of a nurse call system. As a comprehensive care communication system, however, Medical® provides a greatly extended functionality: Through voice and special functions it supports direct information exchange between care personnel and patients.

Watertight and convenient

ZETTLER® Medical® 800 offers an assortment of modern, watertight and ergonomic patient's handsets with a multitude of functions:

- Call panel with reassurance light
- Service call
- 2 light buttons
- TV and radio control, including volume control
- Control function display
- Locating light for the night

Control made easy

The patient's handset can also be used to execute special functions, e.g. to control roller blinds or reading lamps and room lighting. The handset is operated via tactile feedback buttons logically arranged on a membrane keypad. The handset can be stored in a mounting bracket or attached with a clip; it comes with an extremely flexible connecting cable with a self-releasing plug.



Direct communication with individual beds

The "bed voice communication" function increases convenience for patients and personnel. It can be set up for each of the six possible call lines in a room. Using the patient's handset on the bed, the patient communicates directly with the nurse. If the handset is stored in the mounting bracket, it is automatically in handsfree mode. For more discretion, the patient holds it in his/her hand like a telephone receiver. The volume is automatically adjusted without affecting the handset's excellent sound quality. The patient's handsets also double as radio and television sound receivers and feature a standard jack for headphones.

Room terminals for handsfree communication

ZETTLER® Medical® 800 communication terminals are used for open intercom operation in patient rooms and special function rooms. Depending on room usage, the terminals can be equipped with different modules – e.g. a loudspeaker or control module. Terminal sound quality is excellent. The volume is automatically adjusted to the noise level in the room.

Communication secured

The communication system comes with a monitoring lock function. The personnel can contact a specific patient whenever necessary but can only hear the patient once he or she has disabled the monitoring lock by pressing a button. Targeted station and group announcements, announcements to duty rooms, etc., can also be made using the room terminal. If the terminal is equipped with an extension answering module, the nurse can read calls from other rooms on a display and establish a voice connection with the caller.



Signals and displays – details with a radiant effect

To facilitate locating call lines, ZETTLER® Medical® 800 works with room signal, group and direction lights as well as corridor displays. Room signal lights provide reassurance because every call is signaled and the personnel can respond immediately.

Standard-compliant room signal lights

DIN/VDE 0834 stipulates that control of the room signal lights must be guaranteed in the event of network transmission problems. Even though calls may be indicated by displays of control stations or mobile DECT terminals, parallel indication by room signal lights is mandatory. Medical® 800 fulfills all requirements of the standard.

Purpose-oriented displays

Tyco offers a selection of VDE 0834-compliant room signal lights for a wide range of requirements in nursing and living areas. In addition to the prescribed four color light chambers, it is possible, for example, to combine room signal lights with the nameplate of an occupant or patient.





Universal displays for selective indication

A two-line LCD universal display is used for selective indication of calls and information in an office, for a station or group. The group display only indicates calls, messages and information related to the currently active group. A function menu can be used to call up preconfigured combinations with other groups or to display presence and fault lists. Central displays indicate selected items of information at a predefined location: Faults in the technical department, service calls in the kiosk, baby calls in the nursery, etc. The messages remain on display until reset at the place where they originated. Supplemented by an inconspicuous handset, the universal display functions as a simple answer station with a voice function.

Supplementary information

The signal lights offered by Tyco can be matched to architectural concepts: a wide variety of combinations of LED room signal lights for information and orientation systems, e.g. door and wall signs, orientation and escape route layouts or info holders, is available.

Call indication by means of corridor display

Corridor displays are large text and information displays. They provide quick detail information, e.g. on call lines, to the care personnel in the hallways in a manner readable across longer distances (character height 50 mm). The nurses do not need to carry mobile display units and are able to go directly to the caller's room to provide assistance. When the display does not signal a call, the current time of day is displayed.

Centralized or decentralized use

All answer and control stations can either be used centrally from one location in the building or in a decentralized configuration from the station in question. Of course, combined configurations are also possible; these are optimised with the appropriate answer station model.

Extension answering station in the patient's room

The room or communication terminal can be easily used as an extension answering station. The care personnel can use the terminals in all patient rooms to call up information on new calls. A two-line LCD display shows plain-text information (optional: name of caller). All calls received can be processed from these extension answering stations and assigned the "store" status. Establishing voice communication with the calling patients is also possible. In this manner, the equipment in every patient's room can double as a simple answer station.

Mobile care with Medical[®] 800

Hospital and nursing home staff must be able to spontaneously respond to emergency situations at all times. This requires well-functioning communication and staff location tracking. Medical[®] 800 meets these challenges with various control stations.



Targeted communication – the Nurse Control Station NCS

The Nurse Control Station NCS is intended for universal usage as a group, station and parallel control station in duty rooms and other staff rooms. The personnel can answer incoming calls discreetly using the handset or in handsfree mode, exchange the necessary information and initiate appropriate measures.

Convenient call processing

A sensibly arranged, illuminated display indicates all calls and alarms as well as the nurses that are currently present. All calls are signaled acoustically and visually and may be processed according to defined priorities or the user's own choice.

Flexible key assignment

Eight keys with LED status indicators are available for special functions. This has the advantage that frequently used functions, which would otherwise require several operating steps, can be assigned to shortcut buttons. New assignments can be easily programmed by nursing personnel.

Direct contacting and announcements

Care personnel work is reduced by the possibility of directly addressing patients and colleagues at their indicated location. Building, station and group announcements as well as announcements to specific rooms where care personnel is present can be made – conveniently and quickly.

Additional control functions

Control functions such as remote control of terminals at doors and access control systems can be integrated in the care communication system. Separate entry phones become superfluous, and workplace complexity in the duty room is reduced. Moreover, external messages, e.g. from alarm signalling systems, can be received and acknowledged – a major criterion for hospital safety.

Support in the care organisation

The Nurse Control Station NCS manages up to 15 stations of an organisation and up to 5 groups per station. The required combination can be quickly and easily selected from among several preconfigured combination variants. The groups and stations of a shift are automatically combined by making the selection, and work as a nursing unit.



Tyco PC Workstation

The capabilities and features of the PC Workstation depend on the size of the organisation to be managed. It is used in centralized or decentralized configurations.

Keeping track of things

The decentralized PC Workstation is suitable as a main answer station in the nurse duty room. It can show simplified station floor plans as well as original layout plans. Simple, menu-driven operation, plain-text details and clear graphical representations of all calls, messages and presence information help keep track of the station. Any screen representation of groups and/or stations is possible. A mouse click – or a tap of the touch screen – immediately establishes a voice contact to the room from which the call originated.

Preconfigured shifts

The PC Workstation supports simple switching of day, night or holiday shifts. Twelve preconfigured shifts facilitate operation. Rooms can be combined to form groups as desired.

Additional functions for centralized operation

The centralized PC Workstation, the Medical® 800 CommunicationCenter, provides powerful supplementary functions beyond the scope of decentralized operation, giving an overview of an entire organisation – which may even be distributed among several buildings. For greater convenience, it is possible to hook up two screens, one of them displaying the organisation overview and the other the station currently called up. To facilitate operation, the screens are also available in a touch screen variant. Speedy access to individual beds, rooms, groups/stations and the entire organisation is a standard feature.





Moreover, the CommunicationCenter supports the care organisation with the following functions:

- User-selectable representation of target areas on the screen
- Centralized or decentralized station control
- Alarm announcements to all stations
- Selective announcements to certain stations

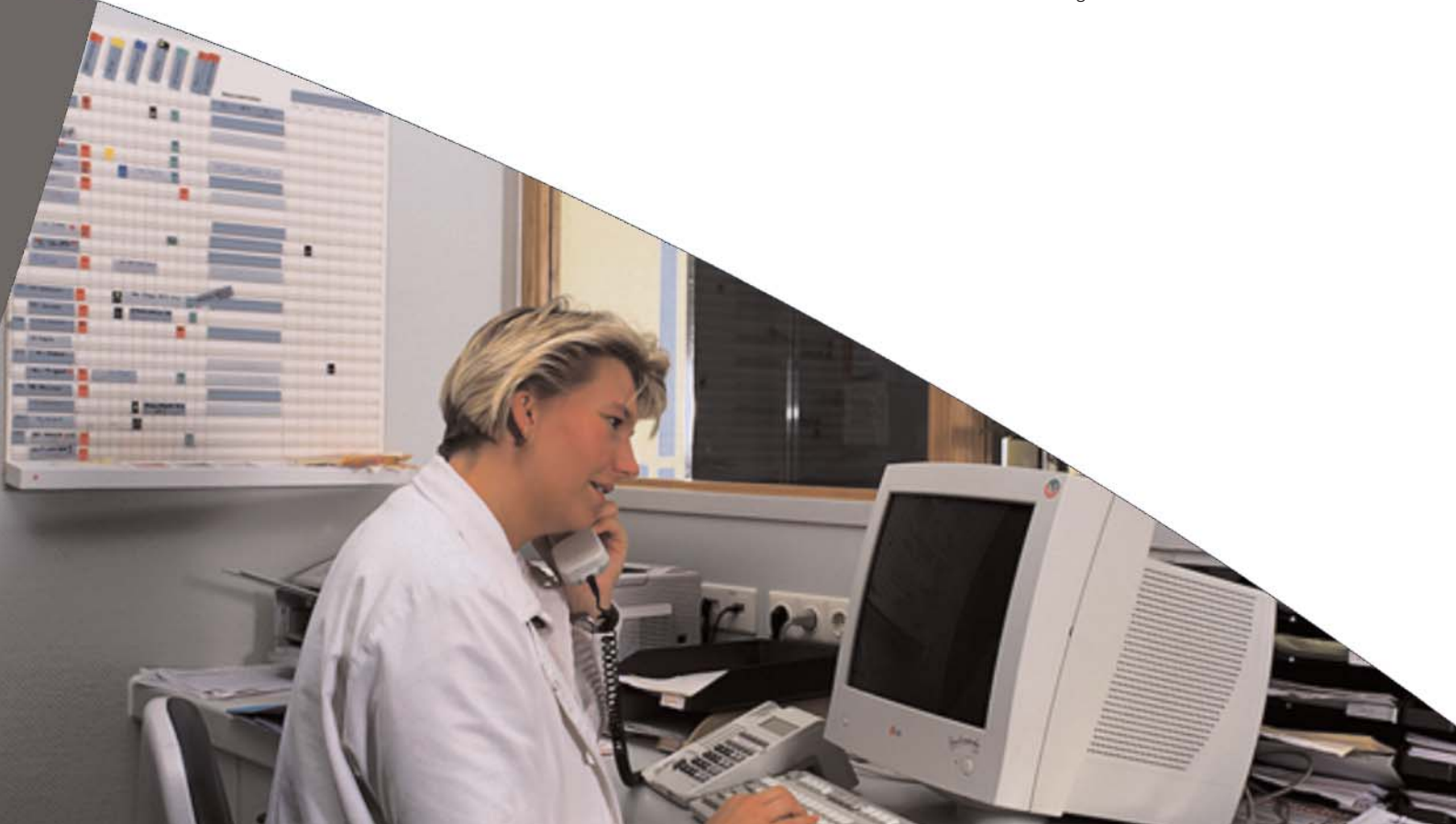
When PC Workstations are used in assisted living developments, vital calls can also be signaled. A call is triggered automatically in the absence of a signal from an apartment within a defined period of time.

Software tools to lighten the workload

The functionality of the decentralized PC Workstation and CommunicationCenter can be extended by the use of software tools. For example, the ZETTLER® mediPage tool supports flexible assignments of pager systems and DECT terminals synchronized with the currently active combinations of groups and stations down to the room and bed levels. This permits all nurses and other staff to be included in the organisation in a simple manner. All assignments to pager systems and PABXs are automatically synchronized by switching shifts.

Space-saving logging

The user-friendly database-based ZETTLER® mediLog software supports logging of all system events as well as sorting and search functions, report printing and export functions. Of course, password protection prevents unauthorized access to database data. The logs can be used to document the nursing services provided by the staff. Various backup options permit space-saving data archiving.



Multiple use through mobile answer stations

In order to remain reachable, to stay informed and to cut down on distances walked, numerous staff members carry cordless terminals (DECT). These PABX terminals have the ability to take on the functions of an answer station. The only prerequisite is an interface between the ZETTLER® Medical® 800 and the PABX.

Direct communication

A doctor or nurse can contact patients and communicate with them directly via the cordless terminal – this is rendered possible by the Medical® 800 patient's handset. To assure discretion, a monitoring lock is active at all times, which must be actively disabled by the patient called. Just like fixed answer stations, the terminals can also be used to make announcements to rooms, groups and stations.

Call answering simplified

In order to facilitate cordless terminal handling, the care personnel can answer incoming patient calls by simply pressing a button. The calls are received according to their priority. This guarantees that the calls with the highest priority are always processed first.

Selective special call forwarding

Special calls, faults and external messages, e.g. from security systems, can be selectively signaled to specific terminals and acknowledged from there: The technical personnel automatically receives fault messages and other relevant status information, service providers receive service calls, the doctors on duty receive emergency and doctor calls, etc. In each case, the competent personnel can initiate the required measures without delay.

Lower investment costs

Multiple use of telecommunication and call functions helps to save on investment costs for separate terminals in each system and to reduce nursing staff workload.





State-of-the-art interface technology: a forward looking investment

Networking the ZETTLER® Medical® 800 care communication system with security services and building management creates cost efficient synergies for hospitals and nursing homes.

Correct connection

Linking the Medical® 800 to the organisation's PABX results in an organisational unit centered around (tele)communication: Telephony, radio and TV billing and call functions can be handled using the same equipment.

Specific fire alarm signalling

Fire protection plays a major role in hospitals and care organisations. The mobility of occupants and patients is limited in many cases; in the event of a fire they are unable to save themselves by their own efforts. By linking a fire detection system with Medical® 800, any


alarm will trigger an immediate and selective notification of care personnel who will inspect the place of the fire and initiate the necessary measures.

Flexible extension options

The interface compatibility of Medical® 800 supports long-term planning. Extensions to include new stations or buildings and/or linking with DECT, pager, fire detection and fault handling systems, EDP and building management systems are easily possible. Major investments in monitoring equipment, compatible software, etc., are unnecessary.

Easy, low-cost maintenance

The maintenance of ZETTLER® Medical® 800 according to VDE 0834 stipulations permits significant cost savings. The system can be remote-configured as early as during the building phase. Software updates can be conveniently installed. In the event of a fault, the authorized service technician determines the system status by means of remote diagnostics and then takes the measures required to eliminate the problem.



Around the clock security management in your vicinity

Faults and failures can be prevented by maintaining and optimising all functions of a security system through regular servicing. A good argument in favour of using Tyco's comprehensive range of services: From planning through installation and commissioning all the way to maintenance – our operation engineers and service technicians are available to you. Tyco takes care of your safety and security with approx. 250 service employees – and we can be reached around the clock and even on weekends via our hotline!

VdS emergency and service call center – available 365 days a year, 24 hours a day

Upon request, we provide another type of safety/security service. Our emergency and service call center provides speedy assistance in an emergency. Our highly qualified and experienced specialists handle alarms of any kind 24 hours per day, 365 days per year. They will assist you in developing an individual plan of measures and will implement it reliably and efficiently in the event of an emergency.

Customized and comprehensive protection concepts – our service for your safety and security!



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