

Emergency call- and lift remote supervision

TransAlarm

and

AWM

Short description

REKOB

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1 General

The TransAlarm-system is an installation for remote supervision of emergency calls from lift cabins and serves for transmission of speech and information-signals via public or private telephone branches to centrals of this system. Besides call-supervision the system could be used for transmission of signals from lift installation resp. of building.

According rules in TRA106 two centrals are necessary for alarm-surveillance. The centrals consist of a modern PC with modem, screen and an intercom for communication with the stations. They are operated with a non-interrupt power supply.

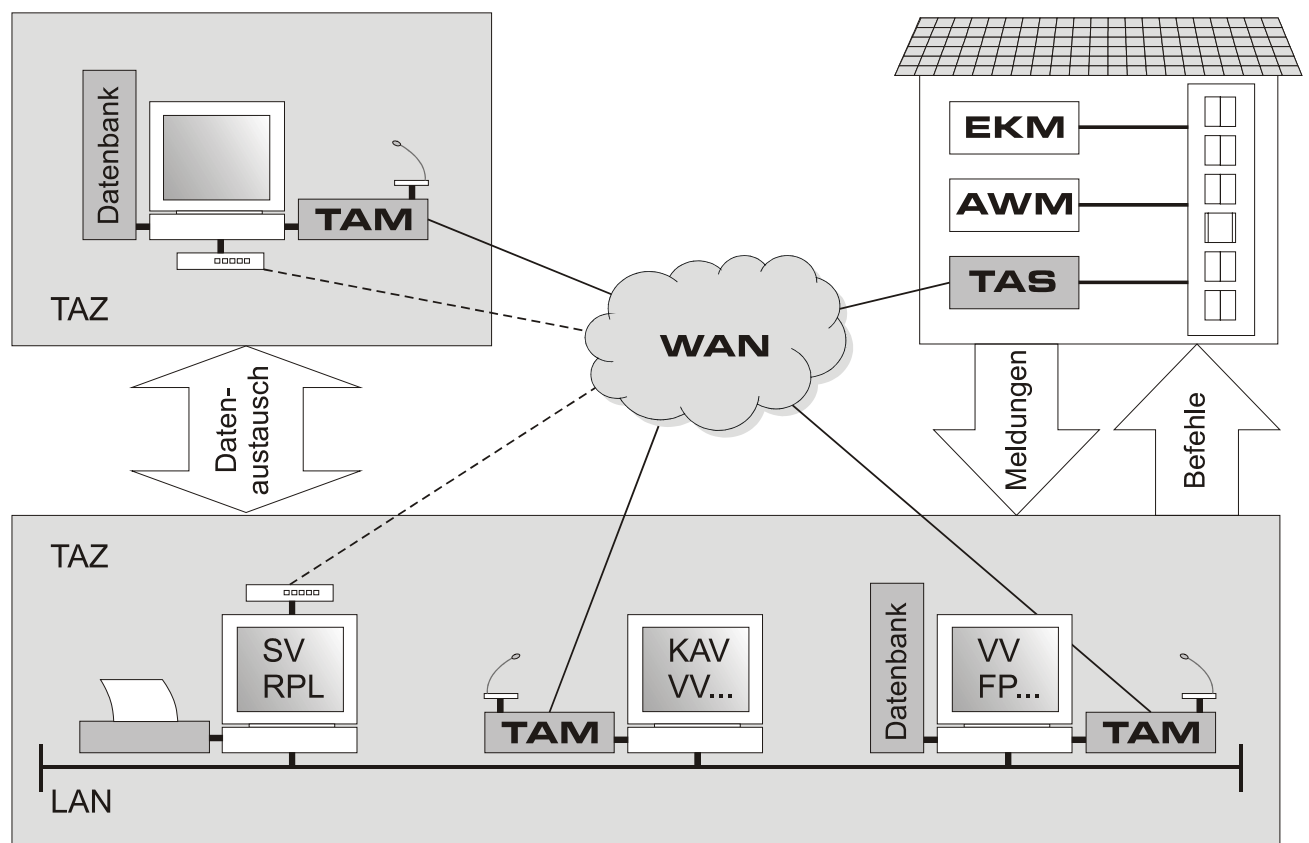
The centrals allow several screens and thus distributed operations. Furthermore a remote-linking enables exchange of datas and processes between centrals as it is necessary for example in case of switching the service between day and night.

The software of central is designed easy to survey in WINDOWS® and easy to handle. It offers a comprehensive management of process and basic data file, a report of all processes, hard-copy and archivment.

With booking-facility of one up to eight emergency calls and signal inputs several TransAlarm-stations –see below– are available. Some of these stations offer interfaces for wiring additional devices for enlarging the amount of signals.

These manifold facilities makes **TransAlarm** to a remote supervision system with a great future.

View on co-operation of TransAlarm-stations (TAS), -modems (TAM) and -centrals (TAZ):



SV: management of basic data file VV: management of process FP: remote parametrition KAV: management of test-dials RPL: replication

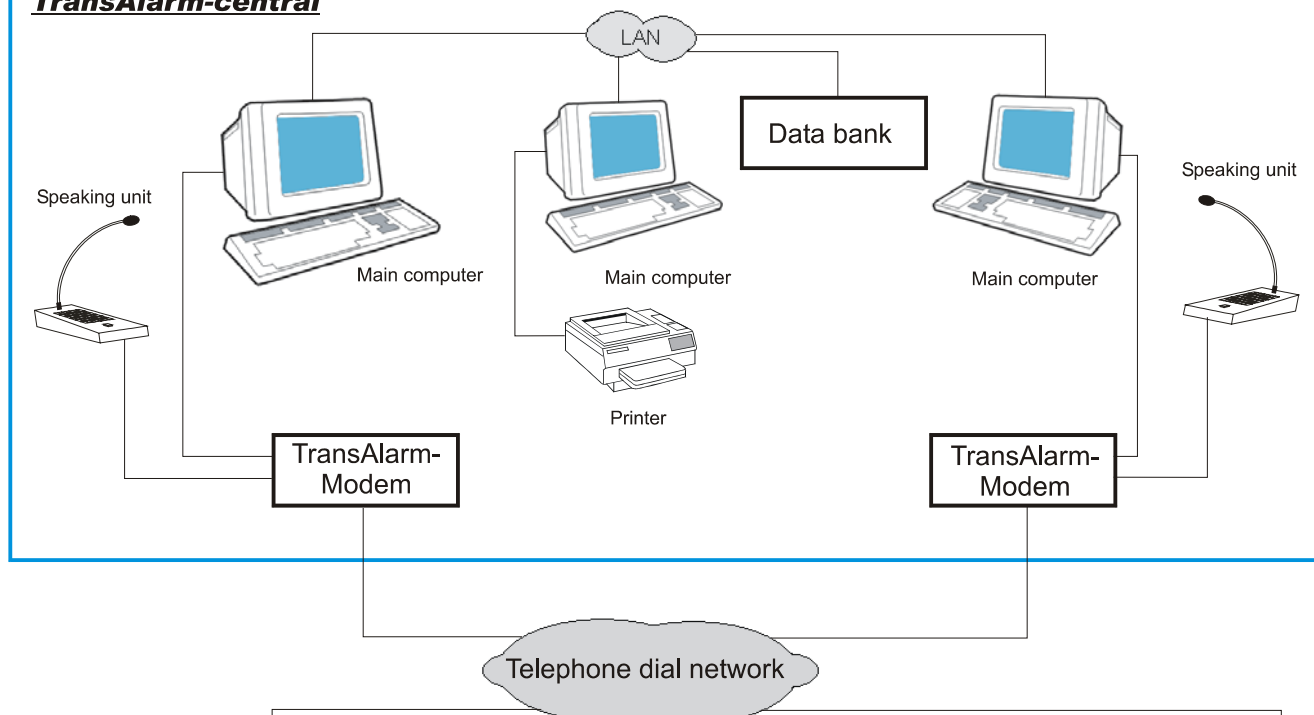
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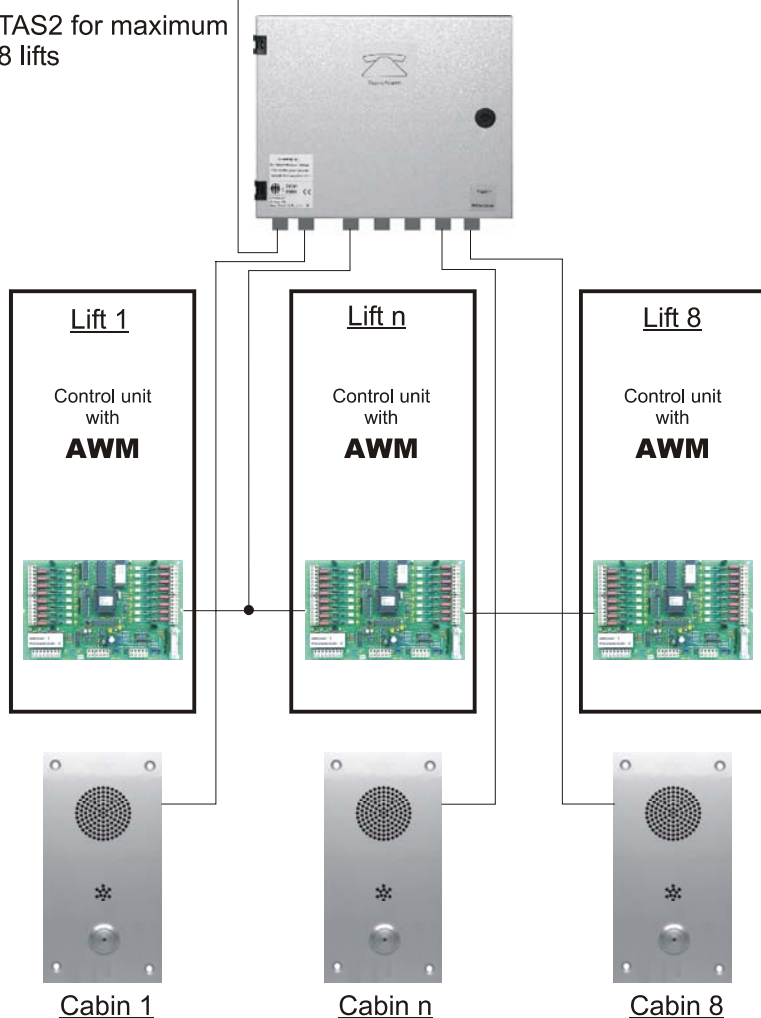
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TransAlarm-central



Lift unit

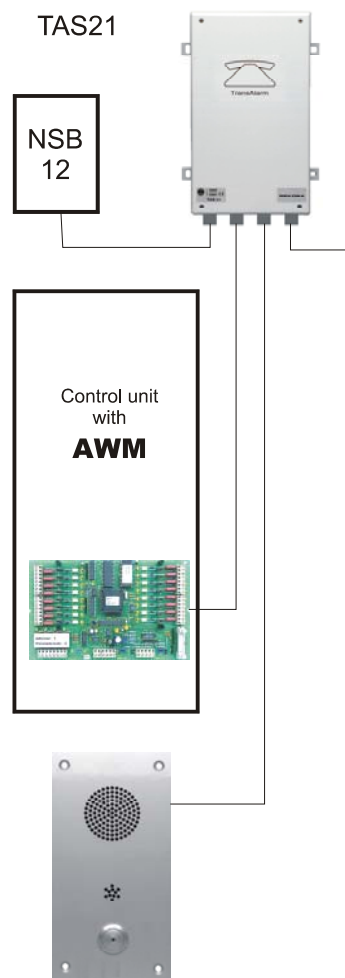
TAS2 for maximum 8 lifts



Single lift

TAS21

NSB 12



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2. TransAlarm-central „TAZ 3“, version 3.0

Main-PC of central is to set-up with licence on operating system WINDOWS-NT4.0 workstation (service pack 5 or higher) and following hardware:

Processor	Pentium or compatible, 350 Mhz or more
RAM	at least 64 MB, proposed 128...256 MB
Harddisk	at least 4 GB
Graphics	VGA with at least 8 MB graphic-storage
Screen	17" or more; resolution 1152x758; should be displayed with ergonomical video frequency
Mouse	PS/2-mouse
Interfaces	serial at least 2 free and one parallel interface
Drives	floppy-disk 3½", CD-ROM drive
Drive for backup	ZIP-, MO-drive or equivalent is proposed
Net-adaptor	yes (not for single-operates centrals)
Soundcard	yes (plus according loudspeaker)

Per direct line one modem is necessary which is to set-up with specifications of intercom system like direct line or PBX, dialling and kind of getting dial tone. Furthermore a hand-free intercom and a non-interrupt power supply is to install.

3. Communication between TransAlarm-central and stations

Central



Each alarm which is booked to the central first is merged with the „basic data file“, including location or adress, datas of coordinated technicians, descriptions of approach etc.

By this the central owns all necessary informations to enable a view on these data at once after an incoming alarm and it identification for operating a process. The central will start operations according that signal and could pass informations to calling person on next procedures.

All operations like incoming/outgoing calls, parametriton of installation, coordinated technicians etc. are printed and archived in file with date and time.

Display of TransAlarm central



Speaking unit of Trans Alarm central

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Station

Each *TransAlarm-station* controls permanently the signal-inputs. If an emergency call is recognized first stored phone number of a *TransAlarm-central* is dialled. If this is occupied or disturbed, or if there is no reaction on call, the next of four numbers is dialled after set-up amount of dial-tries.

After operation of alarm button a confirmation light is activated and textual-announcement (calming text) is passed into cabin until a link to central is get.

A lift-guardian-module *AWM* connected to *TransAlarm-station* is checked permanent on it signal-state also.

Recognized alarms are transmit to central in same way than emergency calls.

Numbers of AWM-alarms and emergency calls could be different.

Even for not given alarms the central could call a *TransAlarm-station* at all times. If link is get the station is identified and the signal-state evaluated.. After that the link is available to the operator in the central, for example to communicate with a cabin.

Ending of processes could be done on different ways:

For first received emergency call the link is stopped manual by central after selecting and informing service personal. After the message „O.K.“, given by technician at *TransAlarm-station*, this process is reported as „FREE“ and end.

For an emergency call with communication link is detected as improper use, this process is reported as IMPROPER USE andf end. Existing links which are at least for one minute without any data-exchange will be end also.

4. *TransAlarm-stations „TAS“*

As operation device for emergency calls and alarms several *TransAlarm-stations* are available. They enable wiring of one up to eight calls and consist of signal inputs, free to book. Because possibility to transmit speech and signal-informations the *TransAlarm-stations* serve remote surveillance of emergency calls of elevators according regulations „TRA106“ as well as of other locations to surveil.

An automatical dialler to call one ore more centrals is common to all *TransAlarm-stations* as well as the possibility to pass a textual announcement into cabin. Feature of repeating dials in case of a central couldn't be reached causes that no alarm could be missed.

TransAlarm-stations could also dial a normal telephone –but DTMF-feasonable. Here the location of calling station is to request. This is done by announcement of station or by communication with cabin.

Communication in both directions is done in two-way-principle for direction of communication is controlled by a balance. Background noises will be recognized to avoid wrong switchings.

Additional devices could be wired which are used according the „regulations for data-control and remote-surveillance of elevators, EN 627“.

All *TransAlarm-stations* are certified by telecom-services all over europe and meet demands of low-voltage and electro-magnmetic-stability.

4.1 *TransAlarm-station TAS2*

TransAlarm –station TAS2 with modem, automatic dialler and textual announcement is to supply with main power 230Vac and built-in into a wall housing ot steel with meassures 355x240x90 mm. Fixtures and terminals are placed witin housing on backside for enabling grip with opened cover only.

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In base configuration the station offers:

- terminals for two emergency buttons with external misuse-signal,
- terminals for two cabin intercom with alarm-confirmation lights,
- terminals for eight signal-lines free to book,
- terminal for machine room intercom,
- a TAE-NFN socket for a telephone in parallel,
- the button FREE for signal of made liberation,
- a button for direct communication with central,
- selection buttons for communication between machine room and cabin.

Two additional modules which include necessary terminals per cabin will extend the unit by each three to max. eight cabins.

Modem of *TAS2* is to set-up on functions like number of station, type of dialling, kind of getting dial tone, time of call-button operation and phone numbers to dial. This parametrition is done menue-controlled at face by a PC/laptop with terminal-software or at works.

Also the central is enabled for remote-parametrition of these functions:

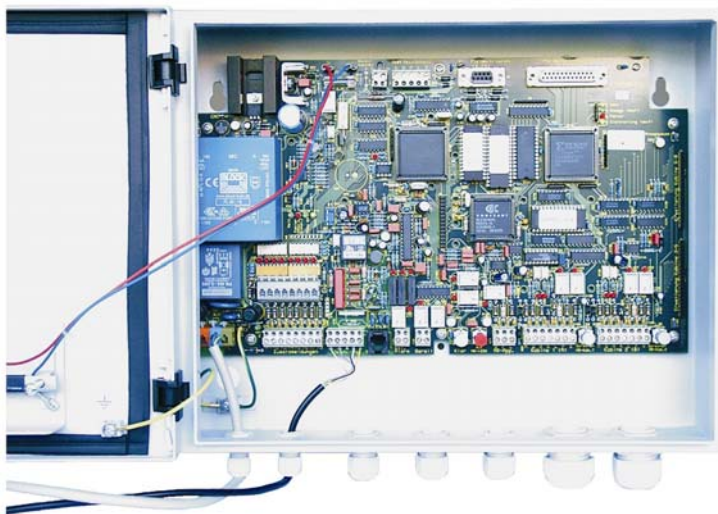
For communication with a modem a software is available which enables a data-transfer with up to 2400 Bd.

With an additional module *TAS2* is able for ISDN.

The operational security is regarded with high value:

Automatical test-dials in set-up intervals supervise the function and will be signaled in central in case of missing. The intervals for test-dials are set-up by central.

Integrated 12V/2Ah-accu served according rule TRA106 for secured emergency operation of station in case of main power failure.



TAS2 in base configuration with opened cover

A precise self-monitoring generates signal for main power failure and indicates the accu as defect in case of loss of capacity or deep discharge.

There is also supervision of initialisation after start of watchdog, of 5V-power and optionally of cover-contact and voltage on phone line.

By LED's on base board following faults and operation states are perceived: supply power, operation power, peripheric power, booking of line, dialling, call/bell, textual announcement, fault at accu or fuse, phone-line disturbed and parametrition-fault.

4.2 *TransAlarm-station TAS21*

TAS21 as an automatic dialler is built-in into a housing with meassures 140x240x60mm and refers in operation and all functions to *TAS2*. Divergent of *TAS2* it is designed for wiring one emergency call only, offers one additional signal input and is to supply by external voltage of 10...25Vdc, unsmoothed.

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By this *TAS21* enlarges the series of TransAlarm-stations by a type which is designed for emergency call surveillance of single elevators.

4.3 TransAlarm-station *TAS22*

TAS22 refers to *TAS2* in basic configuration but inputs for emergency calls and additional signals is limited to two, without any possibility of enlarging. Together with power supply and auxiliary accu it is mounted into a housing of 340x230x100mm. *TAS22* serves for duplex elevator groups which cabins are placed directly together.



TAS21

4.4 TransAlarm-station *TAS24*

TAS24 provides a combination of automatic dialler with a handset for using as machine room intercom. The station offers a keyboard and display for parametrition of functions and diagnosis. Up to 4 emergency calls and 4 signal lines are wirable. Other functions are equal to *TAS2*.

4.5 TransAlarm-station *TAS3*

TAS3 is an automatic dialler for set-up of telephone links in analoge dial networks and operates with multiple-frequency dial DTMF. It serves for hand-free communication communication, transmission of signals by DTMF-tones and output of informations from an announcement module. *TAS3* designed easy to operate and for any usage.

TAS3 serves for calling normal telephones only, but not for operation with central of TransAlarm-systems.



TAS3K incl. intercom

If *TAS3* dials a phone, the called person could hear the announcement with identification which is coming automatically from *TAS3*. If called phone includes a display the calling number of station could be transmit too and be shown. *TAS3* is mounted into a wall-housing of steel with dimensions 140x240x40mm.

Input of parameters into *TAS3* for phone numbers to dial, intervals of dial etc. is possible at face by a pluggable 4x4-keyboard or from remote via telephone. During an alarm the input of parameters is locked.

Same is valid for recording of announcement-texts.

In mode for parametrition first of all the security code is to set. After that the parameters are released and commands according shedule are to put in. After finishing the input *TAS3* is in state of operation.

DTMF-dialling with sequences of tones is used for identification of subscriber and for transmission of commands. The announcement module enables output of texts with totally 16 secs. length, as well as to the cabin and to called subscriber. The texts are recordable by a microphone directly to *TAS3*.

The unsmoothed power supply of 10...25Vdc is to feed from external. For 24Vdc the tension is approx. 25mA while stand-by and approx. 50mA while in operation. The voltage is monitored internal in case of lowering to limit of function.

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5. Lift-guardian module *AWM*

TAS2 and *TAS21* supply a serial interface for wiring the lift-guardian module **AWM**. This module registers additional signals from elevator control according EN 627, the rules for data-evaluation and remote supervision of elevators, escalators and passenger conveyors. Here included main power failure, state of security chain (open/close), flush, cabin light (o.K./failure) travel- and operation hours-counter etc.

For this, 16 potential-free inputs with selectable power-ranges are available at base module. By connection of extension modules the assembly is extendable in steps of 16 up to 96 signal inputs, useable for surveyance of building. By four additional relay-outputs specific operations like reset, travel-command up/down etc. could be made from the central.



AWM-board

For registration of signals from security-chain *AWM* is certified by technical supervision-authorities (TÜV).

By logical combination of registered signals *AWM* creates other states of lift installation. In case of recognized alarm-states like stopping-fault -cabin with open door is not flush- a belonging message to central is done.

AWM-alarms could be transmitted to a special central, using separate phone numbers. The wiring of *AWM* to TransAlarm-station is done via serial interface between both units. Power supply of *AWM* is done by TransAlarm-station. To a TransAlarm-station maximal eight *AWM* are wirable in line, for the maximal line-length between each unit could be up to 100m.

6. Diagnosis with *TESIM*

Via a serial interface a linking to an elevator control with such an interface also is possible. By this connection the modem in TransAlarm-station could be used for remote-diagnosis on PC by diagnosis-software *TESIM*. *EKM*-command units offer such an interface and could be monitored by diagnosis-software *TESIM* on PC at face of control as well as remote.

An adaption to controls of other manufacturers is possible on request also.

TESIM serves the checking of lifts behaviour in dynamic operation and displays this graphical. A precise diagnosis of signals with high resolution enables a precise fault-analysis.

A dial to command unit of lift control could be made at any time by the central via TransAlarm-station.