Central Unit ELISA III-IP

Instruction Manual

Doc.-No.: see top of page

Legal Notice

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1. Introduction

1.1. Purpose of Document

Note

STATE OF THE ART

All information and notes in this instruction manual have been compiled taking into account the applicable regulations, the state of the art and on the basis of many years of knowledge and experience.

This document contains all work steps and functions necessary for the construction, operation, maintenance and repair of the system/product.

The safety notes and instructions contained here, as well as the local accident prevention regulations and general safety regulations applicable to the area of use, are to be complied.

1.2. Designation

In these instruction manual, the device and/or the software application are referred to below as "product".

A sum of individual products that conceptually belong together and form a unit is referred to as "system".

1.3. Target Group

The target group for these instruction manual is exclusively electrotechnically trained and qualified specialists. They are competent persons who have to be certified according to DIN 14675 or EN 16763.

These persons have been instructed by the operator and by **WENZEL Elektronik GmbH** or from **WENZEL Elektronik GmbH** authorized partner companies trained in the application/product.

1.4. Instruction Obligation

The operator is obliged to instruct the specialist personnel on the safe and proper handling of this document within the framework of operational occupational safety.

The operator has to ensure that the specialist personnel have understood the instruction and that the document is used in practice.

1.5. Intended Use

All measures from the areas of assembly, maintenance and repair that are described in this document are considered as intended. The use and described functions of corresponding device groups and categories or applications in compliance with all manufacturer specifications are also considered as intended.

Intended use includes compliance with the instructions described in this manual. This includes:

- Notes on safety
- Notes for operation
- Notes for assembly
- Notes for maintenance and repair

Any other use that does not correspond to the intended use is considered improper and is prohibited.

1.6. Follow the Manual

Every operation, configuration, assembly, maintenance or repair requires detailed knowledge of this manual.

1.7. Warranty and Liability

IMPORTANT

LIMITATION OF LIABILITY IN CASE OF NON-OBSERVANCE OF THE INSTRUCTION MANUAL

These instructions are to be read carefully before starting any work on and with the product/system, otherwise there may be considerable damage or, in some situations, personal injury.

- For damage of any kind and malfunctions resulting from non-compliance with the instruction manual the manufacturer accepts no liability.

Warranty and liability claims for personal injury that can be proven to be directly or indirectly related to products/systems from **WENZEL Elektronic GmbH** can be brought or property damage to equipment, products or applications that **WENZEL Elektronic GmbH** delivered, installed or set up are excluded if they can be traced back to one or more of the following causes:

- Failure to observe the instructions for individual components on transport and storage,
- improper use,
- improperly executed configurations or application installations,
- improper assembly,
- improper maintenance or repair work,
- Operation of the product with removed / defective protective devices,
- Operation of a heavily soiled product/system,
- Features, enhancements or functions that have already been announced or described in customer documentation but have not yet been built into the product or
- any changes or modifications made without the written approval of **WENZEL Elektronik GmbH** were executed.

The documentation is prepared in German, hereinafter referred to as the original text. Only the documentation available in the original text is considered to be "state of the art" and to have been prepared in accordance with the regional and European directives.

In the case of deliveries abroad, the original text will be translated into English. At the special request of the customer, documentation in the respective national language can be supplied in the form of a machine translation. Deviations or differences that arise as a result of the translation are not binding and have no legal effect with regard

to compliance with or violation of regulations and laws. Furthermore, no liability is assumed, either expressly or tacitly, for:

- Accuracy, reliability, or correctness of the translations from German into another language.
- For any deficiencies in the translation that are demonstrably not caused by intent or gross negligence. Not to be classified as gross negligence are, for example, damages caused by computer failures, transmission failures when sending e-mails or by viruses. **WENZEL Elektronik GmbH** will take precautions against this by means of a commissioned IT specialist and appropriate anti-virus software.
- For translation errors that may arise due to incorrect, incomplete documents from the customer or his insufficient cooperation with the original text.

In the event of possible defects, **WENZEL Elektronik GmbH** reserves the right to supplementary performance. Initially, the customer is only entitled to the elimination of any defects that may be contained in the translation. The claim for subsequent performance has to be asserted by the customer within 6 months of delivery, stating the exact nature of the defect. After the deadline, the translation is deemed to have been properly accepted and approved by the customer.

1.8. Storage Location

This document is to be kept near the product/system or application in a safe place that is accessible to the specialist/operator for future reference.

1.9. Licensing

Some central products, such as voice alarm centers (SAZ) and their specific applications, are subject to a licensing key. Depending on the scope and type of the license package, some of the functions described in this manual may be subject to this licensing.

Detailed information about the **WENZEL Electroniks GmbH** licensing system can be obtained from our sales department.

1.10. Copyright protection

The instruction manual is to be treated confidentially.

It is intended exclusively for people who work on or with the product/system.

1.11. Applicable Documents

Components from other manufacturers may be installed in the product/system. The risk assessment of these purchased components or assemblies as well as ensuring compliance in the designs with applicable international and national regulations is the responsibility of the corresponding manufacturer.

1.12. CE Marking

By affixing the CE mark, the manufacturer or distributor confirms that the product complies with the product-specific applicable European directives. (Since December 1st, 2009, with the entry into force of the "Lisbon Treaty": EU directives)

1.13. Typographical Rules

- The document uses continuous text, graphical diagrams, tables and figures.
- The document uses colored illustrations to describe the user interface (screenshots), to describe assemblies or to explain the operating elements of various products.
  - Numbered suits are used to denote individual items. The elements marked in this way are listed and named in a naming list below the graphic with the corresponding numbering.
  - Within texts or instructions, reference is often made to individual elements from the graphic. For better classification, these elements are provided in the text with the markings number from the previous graphic. Example: (3)

- The button labeling is described in the functional description. These descriptions are examples.
- Cross-references in the document look like hyperlinks and are marked in blue. The cross-references function as hyperlinks within a PDF.
- In the text of a cross-reference (hyperlink), the page number is shown in square brackets.
- In the continuous text (body text) the following terms are shown in line width **bold**.
  - Fixed terms that refer to applications and interfaces of **WENZEL Electronics GmbH** e.g. **WeBase** or **WeView**,
  - Tasks, directories, paths and menu items that are available in software applications, e.g. **WeBase** or **WeView**.
  - Key and button labels.
- Changeable texts in knots and menu items are shown in line width **bold** and angle brackets **<...>**.
- Imprints of the hardware interfaces are in line width **bold** and square bracket **[...]** shown.
- Entries at the command line level or file names, paths and IP addresses or the like are displayed in a monospace font. In addition, screen outputs and file contents are shown with a light gray background.

2. Safety

2.1. Basic Security

Although this document is written according to the state of the art and its compliance ensures safe assembly, maintenance and repair of the system / product, danger / damage can arise if:

- Assembly, maintenance and repair work is carried out by untrained or untrained personnel.
- the system or individual components are improperly maintained or serviced.
- This document has not been read or understood carefully.

2.2. Scope of the Guidelines

This document is subject to the provisions of the low-voltage directive or the directives for general product safety and / or the EMC electromagnetic compatibility directive.

In the scope of these EC directives, the commissioning of the components of the product/system is prohibited until it has been determined that the product/system complies with the provisions of these directives.

2.3. Safety Devices

It is forbidden to remove, bypass and/or render ineffective safety devices.

2.4. Safety Signs

Safety instructions on the product/system in the form of pictograms, signs and labels are to be kept in a legible condition and must not be removed. Pictograms, signs and inscriptions that are damaged or have become illegible are to be replaced immediately.

2.5. Warning Notices

A warning is safety-related information that warns the user of products about hazards and instructs them on how to avoid them. It warns of personal injury or damage to property if handled incorrectly.

2.5.1. Structure of Warning Notices

Construction	Meaning
Signal word	The choice of the signal word such as danger, warning, caution or note indicates the severity of the dangerous situation.
Nature and source of danger	Where does the danger come from? What is the source of danger?
Consequences of non-compliance	What can/will happen if the advice is ignored?
Escape / Avoid	How is this dangerous situation avoided?

2.5.2. Meaning of the Warning Notices

⚠DANGER

DANGER indicates an imminent danger. If it is not avoided, death or severe injuries will result.

⚠DANGER This form is used within an instruction or a body text.

⚠WARNING

WARNING indicates a possible impending danger. If it is not avoided, death or severe injuries can result.

⚠WARNING This form is used within an instruction or a body text.

⚠CAUTION

CAUTION indicates a possible impending danger. If it is not avoided, slight or minor injuries can result.

⚠CAUTION This form is used within an instruction or a body text.

NOTICE NOTE indicates a possibly harmful situation. If it is not avoided, the system / product or something in its vicinity can be damaged.

NOTICE This form is used within an instruction or a body text.

2.6. Description of pictograms and general notes

This document contains pictograms for mandatory, warning and prohibition signs, which according to the standard:

- DIN EN ISO 7010: 2020-07
- ANSI.Z 535

are shown.

Symbols	Meaning
	General prohibition sign
	General warning sign
	Warning of electrical voltage
	General mandatory sign: Is also used for important information as a block with a gray background and mostly at the beginning or at the end of a chapter.

General notes

This document contains pictograms and signs which are not standardized. They are shown for general notes for marking extended information.

Symbols	Meaning
	Note: They usually appear as a block with a gray background at the beginning or at the end of a chapter.
	Tips or suggestions: Usually appear as a block with a gray background at the beginning or at the end of a chapter.

General information is presented as follows within an instruction or a body text:

Important To marking important information.

Note For additional information.

Tip For tips and suggestions.

2.7. Work Safety

Note

The operator shall ensure compliance with all rules and laws within the scope of work safety among its employees. This includes:

- Careful behavior in handling the product/system.
- Compliance with all safety instructions and all accident prevention regulations.
- Follow all of these instructions instruction manual .
- Free from consciousness-obscuring substances or medications.

2.8. General Safety Information

DANGER

DANGER FROM WORKING ON ELECTRICAL LINES

Insufficient preparation of the electrical installation can lead to serious injuries or death.

- Only electrical specialists are allowed to work on the products.
- Before starting work, the mains should be switched off and secured against being accidentally switched on again.

⚠WARNING

WRONG CABLE SELECTION

Incorrect or damaged cables can cause serious injury or death.

- Use only cables that match the required amperage.
- Make sure, that all cabling is hardwired and that no cable can come loose.
- Before a power source is switched on, all cables have to be checked and correctly installed.

⚠WARNING

FAILURE TO COMPLY WITH THE SAFETY INSTRUCTIONS

Failure to comply with the safety regulations and their instructions can lead to property damage, extremely serious injuries or death.

- It is essential to observe all safety instructions.
- It is essential to observe all safety regulations.

⚠CAUTION

BATTERIES AND ACCUMULATORS

In some products/systems batteries or accumulators are installed, which can cause lead poisoning or chemical burns due to lead-containing battery paste and corrosive sulfuric acid if handled improperly.

- When working on batteries, wear safety goggles, electrostatically conductive protective clothing and safety shoes.
- Store frost-free under roof.
- Protect plastic housing from direct sunlight.
- Do not allow to get into drains, soil or bodies of water.
- Under no circumstances may the electrolyte or the diluted sulfuric acid be emptied improperly; this process has to be carried out by authorized recycling companies.
- Never let it reach or enter the body.

NOTICE

DAMAGE FROM LIQUIDS

The product can be irreparably damaged if moisture can penetrate the device.

- Never spill liquids on the product.
- Never place a container of liquid on the product.
- Do not use in damp rooms or in unprotected outdoor areas.

NOTICE

DAMAGE FROM DAMP OR HARSH CLEANING AGENTS

The product can be damaged by damp or harsh cleaning agents.

- Never use a cloth that is wet or soaked in strong detergents for cleaning.
- Only clean the product with a dry cloth.
- Antistatic cloth without chemical cleaning additives can also be used for cleaning.

NOTICE

DAMAGE FROM BLOWS AND FORCED OPENING

Falling, hitting or forcibly opening the product can render the product unusable.

- Always handle the product with care.
- Never open the device forcibly.
- Never hit the product with a hammer or similar tools.

NOTICE

UPDATE THE OPERATING SYSTEM AND PROGRAMS

If the programs or the operating system are not regularly maintained and updated, this can lead to functional impairments or malware infestation.

- Provide the operating system with the necessary security updates on a regular basis.
- The software programs can only be updated via the manufacturer's official website or, in the case of licensed products, only use an update authorized by the manufacturer.

3. Transport and Storage

3.1. Packaging

The selection of the packaging material is basically dependent on the dimensions, the weight as well as the impact, vibration and pressure loads. The means of transport and route should also be taken into account.

The product is packaged in such a way that it can be properly transported and, if necessary, stored for a certain period of time.

3.1.1. Symbols on the Packaging

Symbols according to ISO 780

Symbols	Meaning
	Protect from moisture, do not store outdoors and do not transport openly.
	Protect from direct sunlight and do not store outdoors.
	This side up.
	Don't stack.
	Caution fragile.

3.1.2. Dispose of the Packaging

The packaging material has to be disposed of in accordance with regional legal regulations.

We point out, that **WENZEL Elektronik GmbH** as the final distributor of packaging, which is not subject to system participation in accordance with Section 15 Paragraph 1 VerpackG, takes back used packaging.

3.2. Transport

⚠CAUTION

DANGER FROM TIPPING OR FALLING LOADS

There is always a risk of loads tipping or falling during transport, which can lead to injuries.

- All components are to be properly secured as cargo.
- Proceed carefully with in-house transport.

3.3. Transport Damage

The packaged product is to be checked for transport damage. If transport damage is found, the transport company should be commissioned to clarify the matter. If the lack of components and articles is found, contact the supplier and the manufacturer **WENZEL Electronik GmbH** record.

3.4. Storage of Components/Products

NOTICE

DAMAGE FROM DAMAGED PACKAGING

Damage to the packaging of components/products can come it to corrosion or moisture damage.

- Transport and store packaged components carefully.
- Before storing, check whether the packaging is damaged.
- Consult the manufacturer or dealer if the packaging is damaged.

The condition of the stored products/components should be checked at regular intervals so that any negative effects of longer storage can be recognized in good time and suitable countermeasures can be initiated.

The storage area should be clean, cool, dry, ventilated, weatherproof, and protected from direct sunlight. For storage, the temperature should be between +0 ° C and +60 ° C.

Relative humidity values above 95% and below 40% over a long period of time as well as condensation are to be avoided.

For all products/components will require storage of more than three years not recommended.

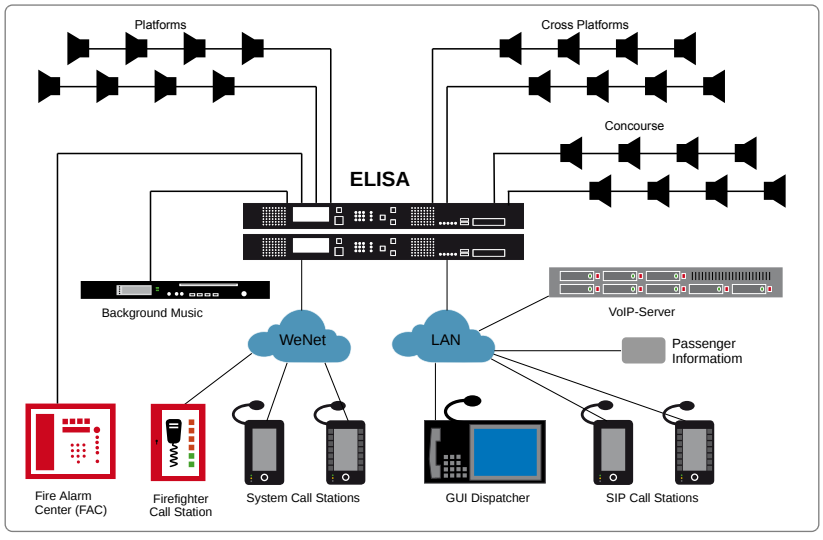
4. Description and Overview

4.1. Description

The central unit ELISA III-IP is an ultra-compact, multi-channel public address device and establishes a new generation of public address systems for use in the railway sector. The product line combines an intelligent sound processor, four high-quality amplifiers and unlimited All-IP network capability and has type approval for public address systems **System ELISA III All-IP / VoIP-Server All-IP**. As an intelligent platform, the ELISA III-IP takes on the tasks of a cost-efficient software-controlled passenger information system and a voice alarm system according to **EN54-16**.

Safety-relevant traveler warnings are issued immediately and acoustically in case of an emergency. The system functionality is adapted to individual performance requirements via a software license system, without changes to the hardware being necessary.

The system structure and configuration is very simple due to the auto-discovery function build into **WeNet**. The monitoring of the transmission paths and the built-in fault management for all system interfaces and ports reduce expenses for inspection and maintenance.



Application example, schematic illustration

4.2. Function and Operation

The central unit ELISA III-IP offers many options for generating announcements as well as numerous other features. It allows live announcements via the call stations of the ELISA family or using VoIP phones. Live announcements can supersede lower priority announcements and mute background music.

The central unit ELISA III-IP can play background music from an external audio source using the analog audio input **[Audio In]** or applied from a media server.

In voice alarm condition, also connected firefighter call stations and appropriately configured system call stations of the ELISA Family can make announcements.

As an automatic public address device, the ELISA III-IP has an XML-based interface for generating automatic announcements from a dynamically loadable vocabulary, which can be stored locally as well as on a central server. This interface conforms to the SES / XML specification of Deutsche Bahn AG.

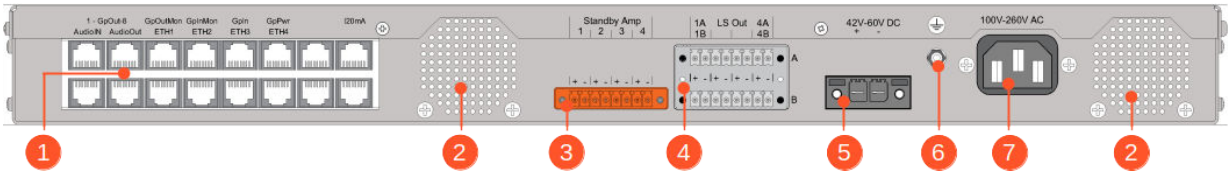
4.3. Overview

4.3.1. Front View

Item	Description	Item	Description
1	Ventilation grille	9	Acoustic off button
2	LCD display	10	Secured alarm button against accidental activation/deactivation
3	ESC/LT button	11	LED status display of the Ethernet inputs
4	5-way navigation button	12	LED status display for shutdown status (CDS, Common Disablement Status)
5	Operating states of the amplifier lines Status, Alert, Off	13	LED status display of operational standby mode (Ready)

Item	Description	Item	Description
6	Number of amplifier lines	14	2x USB ports Type-A • Upper port in device mode, access to the configuration application **WeView** • Lower port in host mode (currently without function), for mass storage or WLAN and Bluetooth adapters
7	LED display system device status	15	Master module shaft. The master module contains essential system information, configuration data and files for announcements.
8	Clear/Reset button		

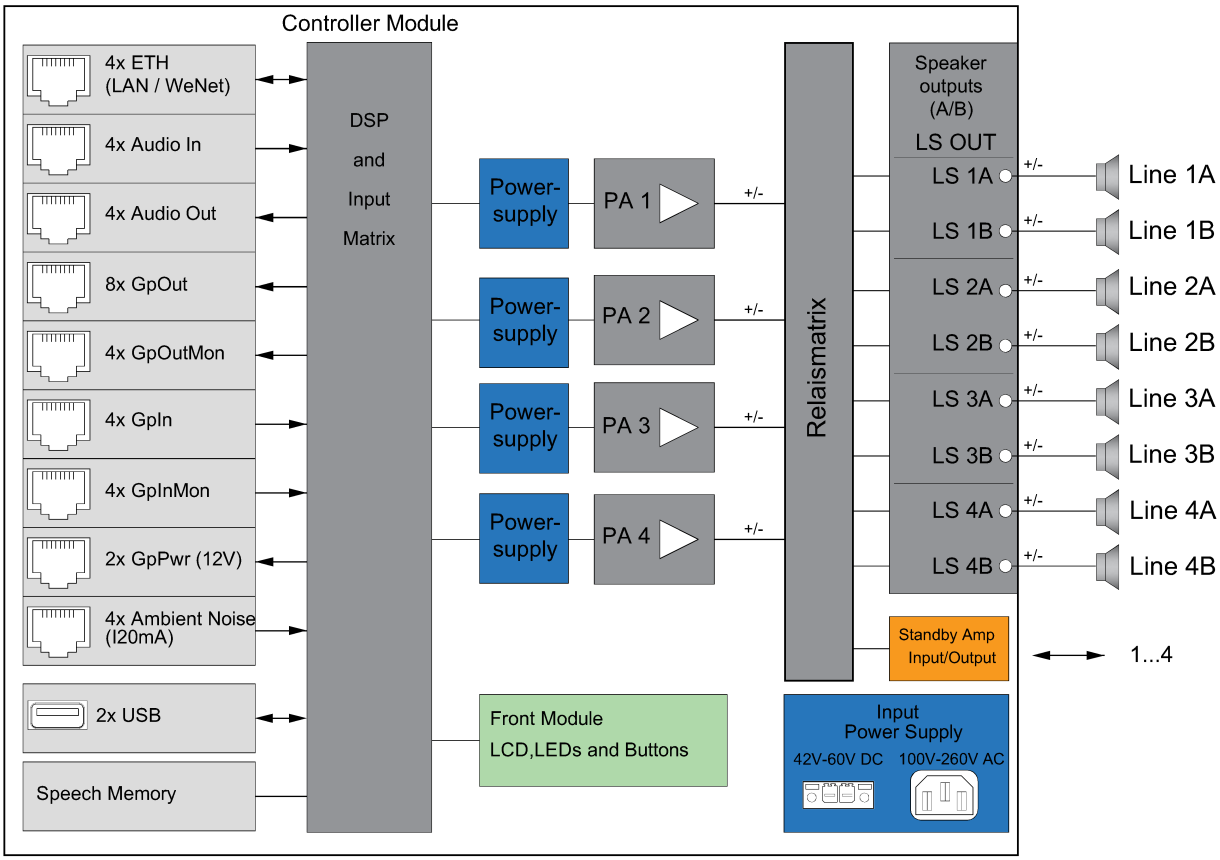
4.3.2. Rear View



Item	Description	Item	Description
1	System connections from 16x RJ-45 sockets	5	48 VDC supply voltage input
2	Fan openings	6	Protective earth screw connector
3	Backup amplifier inputs/outputs	7	230 VAC supply voltage input
4	Speaker outputs 4x A/B		

4.3.3. Block Diagram

The block diagram shows an overview of the most important components of the central unit.



4.4. System Overview

Here is an overview of the main system components and examples of a system setup.

4.4.1. Device Family

To ensure high flexibility and system integration, the ELISA device family provides further components and devices. Cross-system components can also be integrated.

System Components

System Controller Extension WM-HOST

Figure 1. WM HOST

The WM-HOST extends the usable number to up to 150 central units per system. It communicates with other devices of the ELISA Device family through the proprietary **WeNet**-Network and is like the central unit configured and maintained by the web browser based configuration application **WeView**.

External amplifier CE-AMP224

Figure 2. CE-AMP224 (Cross-system, also works with the ELISA device family)

The external amplifier CE-AMP224 can be used for easy blocking-free expansion of loudspeaker lines. The device is connected to the audio output of the central unit, is activated via control inputs and has control outputs for error signaling. The CE-AMP-224 meets the requirements of **DIN EN 54-16**.

Call Stations

Two different device types of call stations are available for the central units:

1. System call stations
2. SIP call stations

The system call stations are configured using the **WeView** application, while the SIP call station is configured directly on the device.

20-button system call station WM-ST20

Figure 3. 20-button call station

The call station is connected to the central unit via the Wenzel internal Ethernet interface **WeNet**. The device is used to perform live public address broadcasting or to activate and deactivate alarm functions. It has 20 freely assignable and configurable function and one-touch buttons. The call station also offers the possibility of line,/group and source selection, the connection of external sources and the triggering of voice memory texts and pre-gong.

The call station is equipped with a goose-neck microphone, a speaker and a system for access authorisation for activating alarm functions. Operation and function status are indicated by LEDs on the button as well as three other separate LEDs.

Touch Panel System call station WM-STTP

Figure 4. Touch panel call station

The touch panel system call station offers the same features as the 20-button system call station. However, instead of mechanical buttons, this call station is equipped with a touch display and allows configuration of up to 100 buttons on 5 levels.

The call station is equipped with a gooseneck microphone, a loudspeaker and an access authorization system for triggering alarm functions. Operating and functional status are shown on the display on the key frame and in the keypad as well as three other separate LEDs.

SIP call station 20 buttons WM-ST20-IP and touch panel WM-STTP IP

The SIP call stations enable remote use via an available LAN network. They can either be connected directly to the central unit or via a WENZEL VoIP server.

The call stations are visually identical to the system call stations, but not compatible with each other. To avoid confusion, identify the product name shown on the name-

plate. Furthermore, they have different functionalities, which become apparent in the course of the configuration of both device types.

Note

System call stations and SIP call stations are one below the other **not** compatible.

Firefighter call station WM-ST5A

Figure 5. Firefighter call station

The fire station complies with **ÖNORM F3033** and is equipped with 7 keys for announcements, acoustic down and all-clear. It has LED indicators for the status: **Operation**, **Fault** and **Busy**.

Ethernet extenders and media converters

The limitation of the range by the standard IEEE 802.3 of 100m is too small for many 10/100 Ethernet data transmissions. Therefore **WENZEL Electronics GmbH** offers various Ethernet extenders and media converters as range extenders. The devices

are installed in pairs, with one device being positioned in the control cabinet and the other device being installed near the target device.

Note

RANGE AND DATA RATE RECOMMENDATION

When using the extenders, the available data transferrate reduces with distance. Therefore, it must be ensured that they are only used for the connection of individual call stations. If the connection is to be redundant, the same device must be used on both sides. IIt is not recommended to build redundant networks with these extenders, because then a multiple of data would have to be transmitted. If longer ranges and/or the implementation of redundant networks are desired, we recommend the use of fiber optic cables and fiber optic media converters.

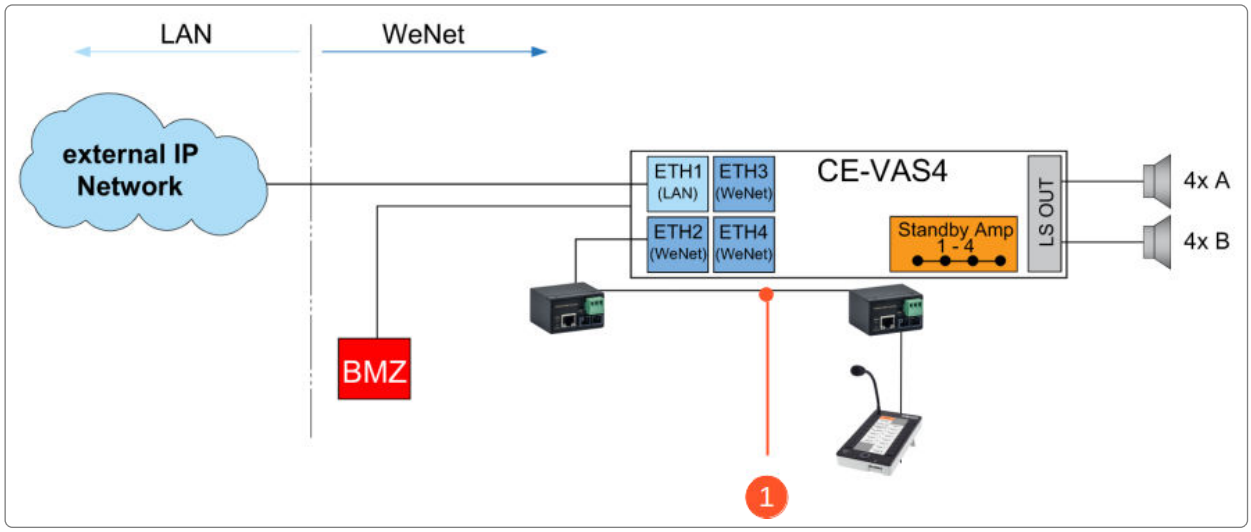


Figure 6. Position example of the devices in the network

Item	Designation
1	Range extension depending on the device as glass fiber, Ethernet or VDSL line.

Depending on local conditions, different range extenders are used.

Due to the EN 54-16 certification and the compact design, the use of the devices is also very suitable in critical infrastructures of fire and alarm detection systems. All devices are delivered without power supply.

Media converter CE-MKP (-SM)

Figure 7. CE-MKP (-SM)

Both media converters are used in networks that connect individual network segments with different transmission media such as Ethernet, coaxial cables or fiber optic cables. This physically transforms the transferred data from one medium to another.

The high flexibility makes this media converter ideal as a range extender for different target devices.

Both media converters can be operated via an external power supply unit, a POE injector or a battery-backed supply (e.g. CE-48DC24E from **WENZEL Electronics GmbH**) and are not only suitable for mounting on a top-hat rail, but also for wall mounting. The assembly material for both alternatives is included.

CE-MKP

Network connection		
	Local interface	Wenzel WeNet, 1 x RJ-45 10/100BaseT
	Fiber optic cable	1x 100BaseFX, SC Multi-Mode
	Range	2km

CE-MKP-SM

Network connection		
	Local interface	Wenzel WeNet, 1 x RJ-45 10/100BaseT (X)
	Fiber optic cable	1x 100BaseFX, SC single mode
	Range	30km

Ethernet extender CE-EEP

Figure 8. CE-EEP

The device transmits 10/100Mbps Ethernet and PoE/PoE+ with TP or Cat cable. Diagnostic LEDs provide an overview of the operating status.

At different weather conditions and temperatures between -40°C - 75°C or in tight spaces, the extender ensures reliable data transfer.

The selection of the extender depends on factors such as space requirements, range or electrical supply. Basically, this extender also offers the option of installing it together with the CE-EEP-L. However, both extenders can only be used within the specified range parameters. However, this procedure is only recommended if local conditions require it, otherwise it makes more sense to use two identical extenders as a pair with regard to the power supply.

In addition to mounting on a top-hat rail, this extender is also suitable for wall mounting.

Network connection		
	Local interface	Wenzel WeNet, 1 x RJ-45 10/100BaseT
	Ethernet interface	Standard 10/100BaseT
	Ranges (2-wire only data transmission)	900m (10BaseT), 300m (100BaseT)

Ethernet extender CE-EEP-L

Figure 9. CE-EEP-L

The device transmits 10/100Mbps Ethernet and PoE/PoE + with TP or Cat cable. Diagnostic LEDs provide an overview of the operating status.

The high flexibility makes this Ethernet extender ideal for larger ranges and is particularly suitable for warehouses, parking lots, campuses, schools, shopping centers, public buildings and many more.

This device has a round plug connection for an external power supply through a power supply unit. If such a power supply unit is used, the PoE supply switches off automatically. With the CE-EEP, a local power supply is applied directly. There is no round plug connection. The extenders CE-EEP and CE-EEP-L differ in this and in size.

In addition to mounting on a top-hat rail, this extender is also suitable for wall mounting.

Network connection		
	Local interface	Wenzel WeNet, 1 x RJ-45 10/100BaseT
	Ethernet interface	Standard 10/100BaseT
	Ranges (2-wire only data transmission)	900m (10BaseT), 300m (100BaseT)

Ethernet extender CE-EEPV

Figure 10. CE-EEPV

The Ethernet extender enables Ethernet communication over single twisted pair (CAT5/6/7) or any existing copper data cabling such as telephone lines, coaxial cables with VDSL2 technology or lines previously used in alarm circuits such as ISDN, E1/T1 circuits, RS-232, RS-422, RS-485 applications. This extender is suitable for wall mounting in addition to DIN rail mounting.

Network connection		
	Local interface	Wenzel WeNet, 1 x RJ-45 10/100BaseT

	VDSL	CO local	The Ethernet Extender works in CO VDSL mode.
		CPE remote	The Ethernet Extender works in CPE VDSL mode.
	Range	3km	

Accessories

Ambient Noise Sensor WM-AMNS

Figure 11. Ambient Noise Sensor

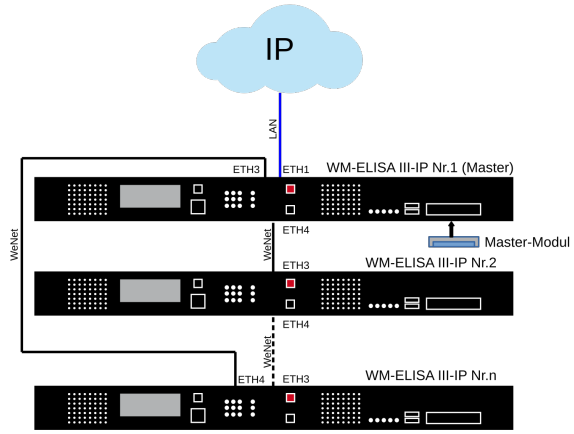
To adjust the sound level to the ambient volume, the Wenzel ambient noise sensor is connected to the power-fed measurement input **[I20mA]**. Depending on the measured ambient noise level, the sensor provides a current between 4 and 20mA, which is detected by the central unit and effects the announcement volume.

The dynamic volume adjustments are made in the configuration settings.

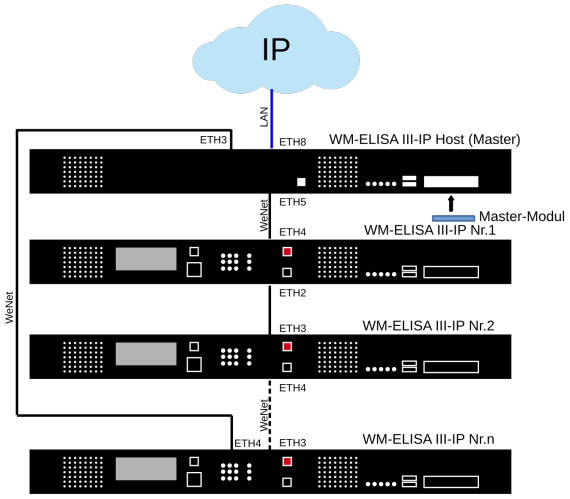
Up to 4 sensors can be connected.

4.4.2. System Design

Master-Slave Concept



Master-slave concept with ELISA III-IP



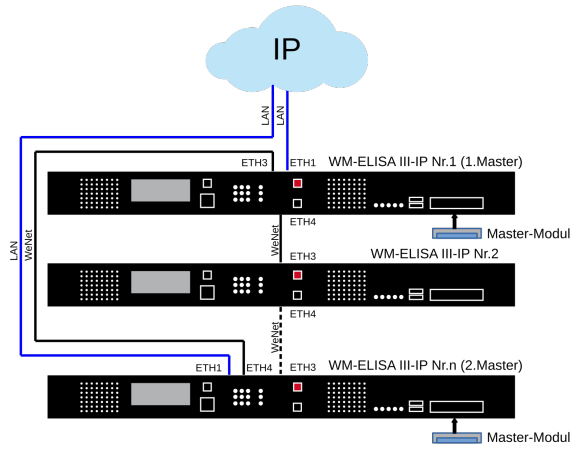
Master-slave concept with WM-HOST

Several central processing units can be interconnected in a **WeNet**-Network. A central processing unit is defined as the active master by installing a master module in this device on which the central configuration files are stored. The master device controls the error management, the connected slaves and the LAN interface (**[ETH1** of the master device).

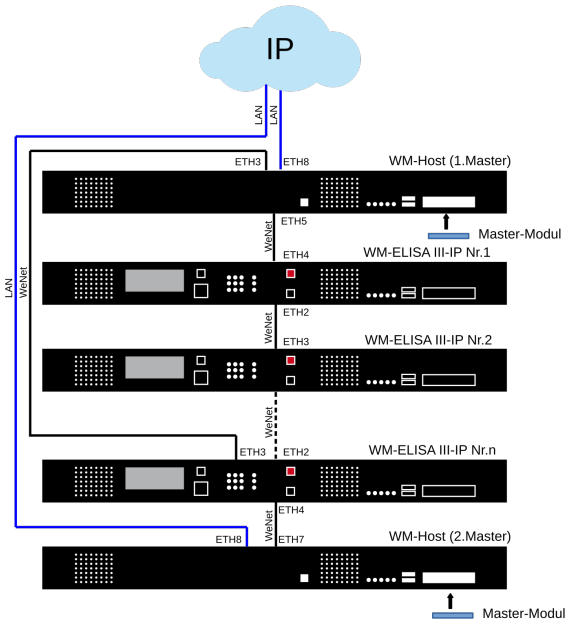
When using a host computer WM-HOST this device takes over the tasks of the master.

The figure in the subsection Cross-device amplifier failure [38] shows another example of a system network in the master-slave concept. The master is the top-level device with the connection to the LAN network. It is connected via a **WeNet**-Connection to another central unit, which is downstream as a slave device. All ETH interfaces of the slave device are marked with **WeNet**.

High Availability Concept



High availability concept with ELISA III-IP



High availability concept with WM-HOST

To represent a highly available system, a ELISA III-IP is defined as a second master. This second master ELISA III-IP works passively and takes over the tasks of an active master if the first master fails. In this special case, the second master is also equipped with a master module that is configured with the identical data of the first master module.

When using a host computer (as the master device), the system can also be designed for high availability by defining another host as the second master.

The figure in the subsection device redundancy [40] shows another example. The top device is the active master. In the event of failure, the lowest device, which also has a LAN interface on **[ETH1]** takes over.

Back-up concepts

The central unit supports two back-up concepts:

1. Amplifier back-up
   a. Internal amplifier back-up
   b. Device-spanning amplifier back-up.
2. Device redundancy

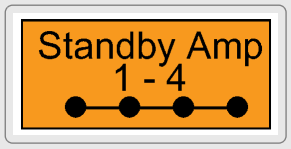
Internal amplifier back-up

If the failure of a single power amplifier is detected within a central unit, another power amplifier alternatively takes over the announcement.

For this purpose, the plus cables (+) and the minus cables (-) of the internal power amplifiers are connected at the back-up output **Standby amp**, using the supplied connector.

Note

The illustration of the connector shows the connections of the emergency outputs **[Standby amp]**. The connector is part of the scope of delivery and is already pre-assembled.



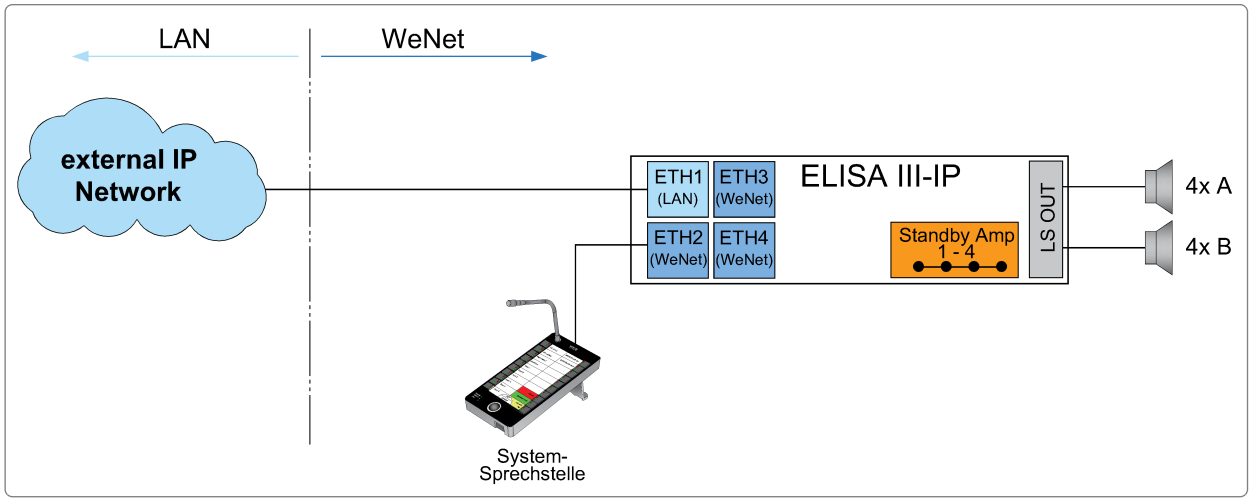


Figure 12. Internal back-up

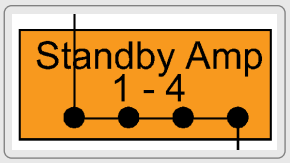
Device-spanning amplifier back-up

Are several central units connected in a network, a power amplifier of central unit can take over the announcement of a defective power amplifier of another central unit.

For this purpose, the plus cables (+) and the minus cables (-) are connected with each other at the back-up output **Standby Amp** of the central unit and connected to the other central unit.

Note

The illustration of the back-up connector shows the connections of the back-up outputs **[Standby Amp]**. The connector is part of the scope of delivery and already pre-assembled. The connections to other central units are to be carried out project-specific.



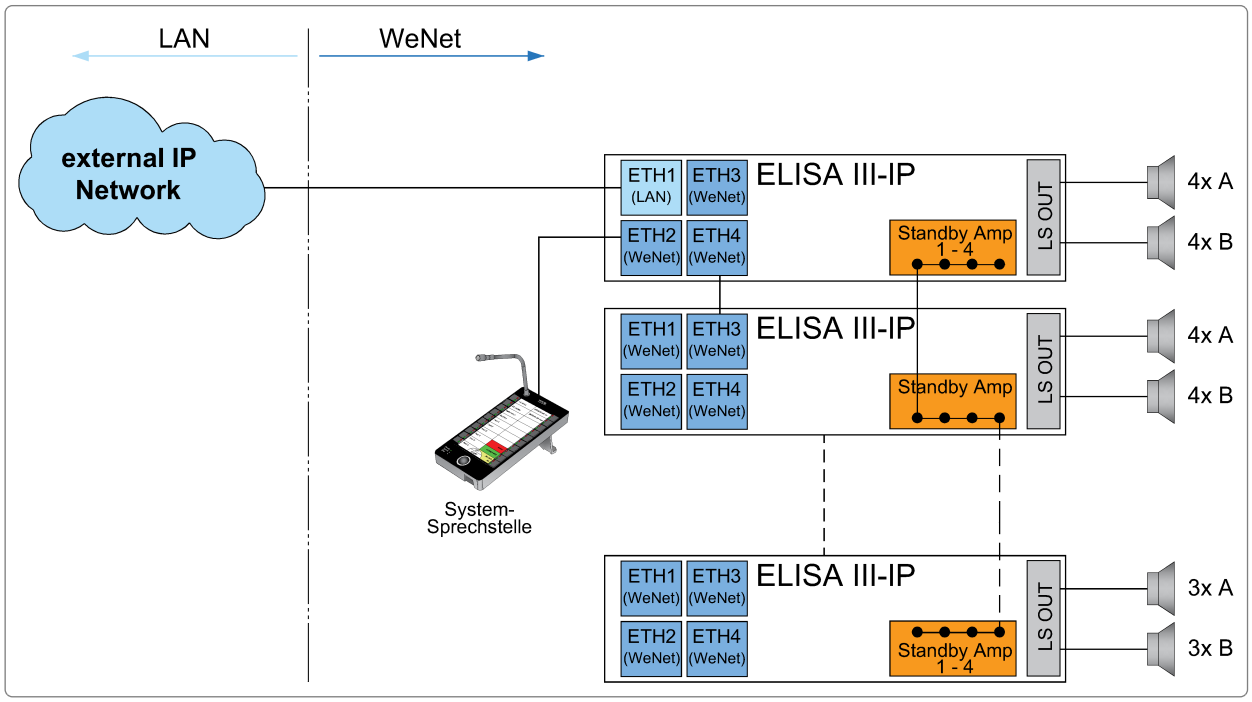


Figure 13. Device-spanning amplifier back-up

IMPORTANT

With power variants 300W, 450W and 600W, no individual amplifiers can be replaced across devices.

- For 300W and 450W, an internal back-up amplifier must be selected or all amplifiers must be replaced across devices.
- For 600W device redundancy needs to be selected.

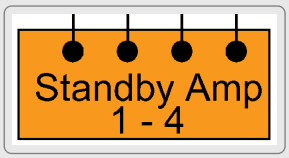
Device reduncy

If several central units are connected in a network of a complex system, a redundant central unit can take over the tasks of a defective central unit. The figure below shows an example of a voice alarm system.

For this purpose, the plus cables (+) and the minus cables (-) at the back-up output **[Standby Amp]** are connected between the central units.

IMPORTANT

In contrast to the amplifier back-up concepts, the back-up outputs **[Standby Amp]** are not interconnected at a central unit. The connection cables at the supplied, pre-assembled back-up connectors must be opened and then connected to the central units project-specific.



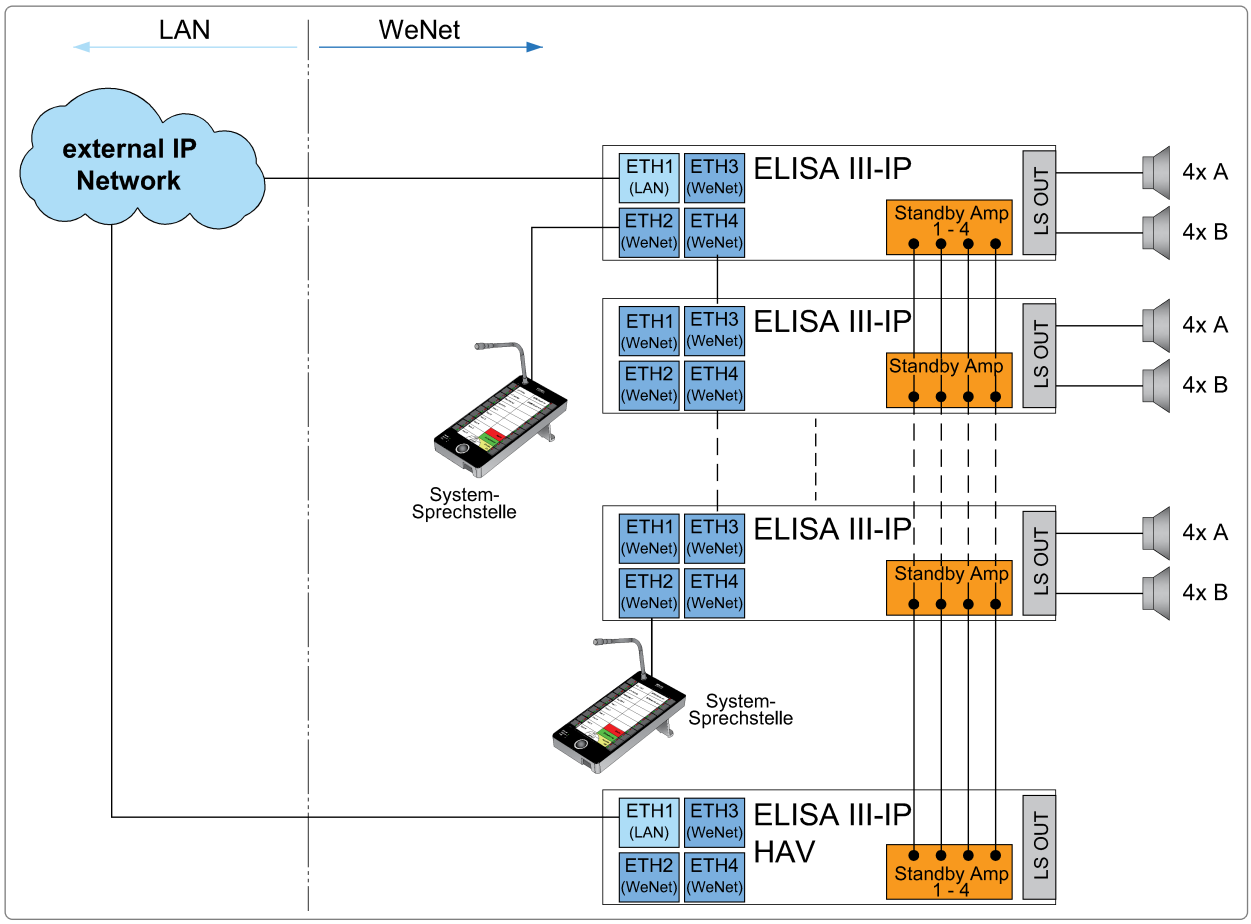


Figure 14. Device redundancy

Back-up Configuration

Depending on the security requirement, the following settings must be applied. The central unit provides the corresponding functions.

Security requirements	(internal) backup amplifier	Device backup	System redundancy *3
Security level 1	X*1	--	--
Security level 2	X*2	--	--
Security level 3	--	X	X

Table 1. Security levels according to VDE 0833-4: 2014-10, ENS according to VDE 0828-1: 2017-11

Legend

X = required

- = not required

*1 = If one amplifier supplies more than one alarm area.

* 2 = If A and B loudspeaker lines are supplied from separate amplifiers (A / B accident), no backup amplifier is required.

* 3 = As explained in VDE 0833-4: 2014-10.

Test procedure according to EN 54-16 clause 16.2.2.3

Failure safety refers

- for safety level 1 and for sound systems for emergency purposes to errors in the transmission path (loudspeaker line),
- for safety level 2 on amplifier errors (for all output power variants) or errors in the transmission path (loudspeaker line),
- for safety level 3 to all errors in the overall system.

Security requirements	Fault condition	Particularities
Security level 1	**Error message in the event of failure** • of a single line, • of an amplifier. **Function** • Amplifier backup, if an amplifier supplies more than one alarm area. Test The failure of an amplifier is simulated at the WeView menu maintenance /Simulation of amplifier errors.	• **No** A/B wiring of the speaker lines. • Backup amplifier is only required in exceptional cases.

Security requirements	Fault condition	Particularities
Security level 2	**Error message in the event of failure** • of one or more A-lines, • of one or more B-lines, • of an amplifier. Function • Amplifier backup, if one amplifier group supplies lines A and B together. Test The failure of an amplifier is simulated at the WeView menu maintenance /Simulation of amplifier errors.	• A/B wiring of the speaker lines. • Backup amplifier is only required in exceptional cases. • For 300W and 600W, power is usually divided into separate amplifier groups for A and B lines.
Security level 3	**Error message in the event of failure** • of one or more A-lines, • of one or more B-lines, • of a device. Function • Switchover master, • Switch over to replacement device. Test The failure of a device is simulated by switching off the power supplies on the device.	• A/B wiring of the speaker lines. • No backup amplifier. • Device backup or geo-redundancy. • Redundant master (system redundancy).

Table 2. Test procedure according to EN 54-16 clause 16.2.2.3

Structure of the power supply

This subchapter describes the structure of the redundant internal power supply of the amplifiers installed in the device. The information provided serves as the basis for assessing acceptance-relevant system properties for technical experts and evaluators.

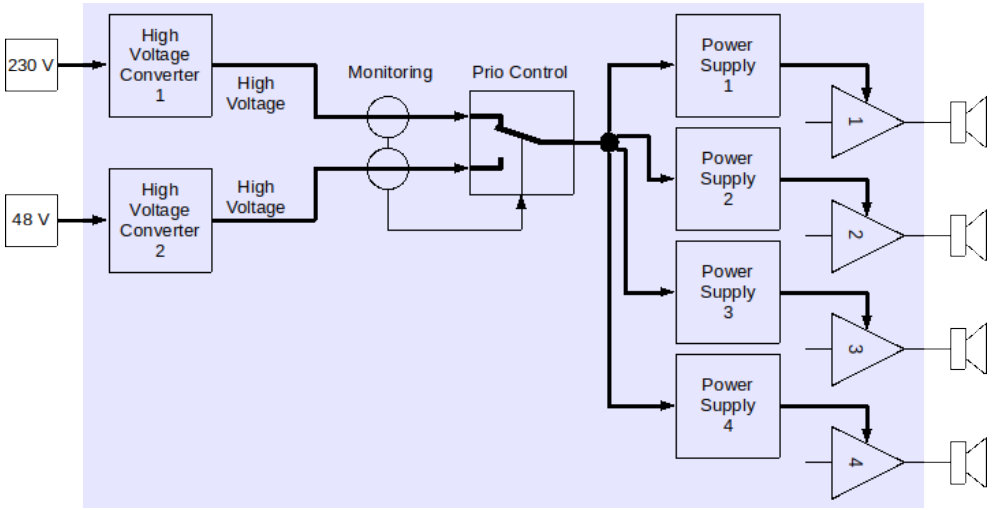


Figure 15. Block diagram of the power modules

The power supply of the devices is designed redundantly as shown above. Each power amplifier has its own power supply. The shared converters to the internal high voltage supply are redundant. One is supplied from the externally applied 48 V_{DC} and one from the externally applied 230 V_{AC}.

The 230 V_{AC} supply has priority here. The converters and power supplies are monitored. The failure of a redundant converter or power supply is reported as a fault. In addition, if the 230 V_{AC} converter fails in VAS according to DIN 0833-4, amplifiers become active in voice alarm mode only.

For proper operation, switches AC and DC both must be activated for each relevant device via the configuration tool **WeView** in the BuildUp task.

4.5. EN 54-16 Compliance List

The ELISA III-IP is fully compliant with all mandatory requirements according to standard DIN EN 54-16: 2008-06 Voice Alarm Control and Indicating Equipment (VACIE).

Note

EN 54-16

The standard DIN EN 54-16, Fire detection and fire alarm systems - Part 16: Voice alarm control and indicating equipment describes as a product standard which requirements each individual component of an electro-acoustic emergency warning system must be met according to DIN EN 60849 and defines the associated test procedures.

IMPORTANT

If ordered and installed as a voice alarm control and indicating equipment.

In addition the following optional functions (option with requirement) are also supported:

- 7.3 Audible warning
- 7.5 Phased evacuation
- 7.6.2 Manual silencing of the voice alarm condition
- 7.7.2 Manual reset of the voice alarm condition
- 7.8 Output to fire alarm devices
- 7.9 Voice alarm condition output
- 8.3 Indication of faults related to the transmission path to the CIE
- 8.4 Indication of faults related to voice alarm zones
- 10 Voice alarm manual control
- 11 Interface to external control device
- 12 Emergency microphone
- 13.14 Redundant power amplifiers

The following optional functions (option with requirement) are not supported:

- 7.4 Delay to entering the voice alarm condition
- 9 Disablement condition

4.6. Displays and Control Elements

4.6.1. LED Displays (mandatory information)

According to EN 54-16 mandatory displays are required. Mandatory displays are visualised by LEDs on the front panel. The following conditions are displayed:

- Quiescent condition
- Voice alarm condition
- Fault warning condition
- System error condition
- Disablement condition

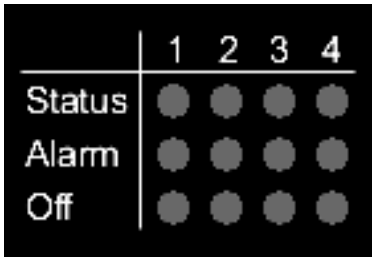
Note

The shutdown status function cannot currently be activated.

4.6.2. Amplifier and Loudspeaker Lines

Twelve LEDs are indicating the operating condition of the 4 power amplifiers and the connected speaker lines. An active, a fault warning and a disablement condition can be displayed for each amplifier.

- The LEDs **Status** is tricolor,
- the LED **Alarm** and the LEDs **Off** (switch-off state) are designed in one color.



Meaning of the LEDs WITHOUT voice alarm function:

LED	Colour	Description
Status	Off	Amplifier and loudspeaker line inactive
	Green	Amplifier and loudspeaker line active
	Yellow	Traffic light message for amplifier or line fault (warning) • a line (A or B) is not ok or • amplifier defective, but an backup amplifier is available
	Red	Traffic light message for amplifier or line fault (error) • both lines (A and B) are not ok or • amplifier is defective and no backup amplifier available
Alarm		Without function
Off	Flashing yellow	Amplifier in disablement condition

Meaning of the LEDs WITH voice alarm function:

LED	Colour	Description
Status	Off	Amplifier and loudspeaker line inactive
	Green	Amplifier and loudspeaker line active
	Yellow	Error of amplifier or loudspeaker line
Alarm	Red	Loudspeaker line in alarm condition
Off	Flashing yellow	Amplifier in disablement condition

4.6.3. LEDs indicating the operating conditions

The following operating conditions are displayed in this area:

- Quiescent condition

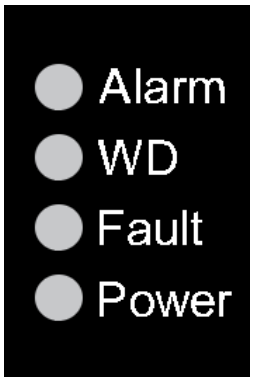
  In quiescent condition the LED indicators for **Alarm**, **WD** (Watchdog) and **Fault** not active. The LED **R** lights up green (see also Status Displays [49]).
- Voice alarm condition

  The voice alarm status is shown as generell indication with the LED **Alarm**. Additional signaling takes place on the status displays of the amplifiers and loudspeaker lines (see also Amplifier and Loudspeaker Lines [46]).
- Fault warning condition

  A fault warning condition is indicated by the LED **Fault** and in systems with a voice alarm function, an acoustic signal. The acoustic signal is switched off by briefly pressing the button **Clear / Reset**.
- System error

  Note A system fault display is required for software-controlled voice alarm control and indicating equipment and is described in the standard **DIN EN 54-16** §§ 8.2, 14.4 and 14.6.

  A system eror is indicated by the LED **WD** (Watchdog). By pressing the button **Clear/Reset** for 3 to 10 seconds the system error is reset and the LED **WD** goes off.



Meaning of the LEDs in an ELISA III-IP system WITHOUT voice alarm function:

LED	Colour	Description
Alarm	Red	without function
WD	Yellow	System fault detected by watchdog (**WD**).
Fault	Yellow	General fault (traffic light warning)
Fault	Red	General fault (traffic light error)
Power	Green	Device is connected to the power supply
Power	Yellow	A power supply is outside the specified range

Meaning of the LEDs in an ELISA III-IP system WITH voice alarm function:

LED	Colour	Description
Alarm	Red	Voice alarm condition active
WD	Yellow	System fault detected by watchdog (**WD**).
Fault	Yellow	General fault
Power	Green	Device is connected to the power supply
Power	Yellow	A power supply is outside the specified range

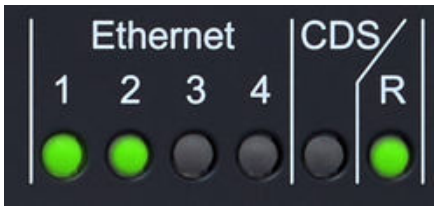
The following incidents will cause the LED **Fault** to illuminate:

- Failure detected on a transmission path of the voice alarm system.
- Temperature fault.
- Any other fault, which is indicated via the LEDs **Status** (see below).
- Power supply is outside of the specified range.

In addition to the LED **Fault** the LED **Status** LED (1 - 4) of the concerned amplifier and loudspeaker line will illuminate, if following incidents occur:

- An amplifier is defective and the assigned backup amplifier is either also defective or no backup amplifier is configured.
- An amplifier is defective, but a backup amplifier is assigned and active.
- Earth fault of a loudspeaker line.
- Short circuit in a transmission path to a loudspeaker line.
- Open circuit of a transmission path to a loudspeaker line.
- Impedance of a loudspeaker line is outside of the configured tolerance.

4.6.4. Status Displays



LED	Color	Description
Ethernet	Off	Ethernet down or not connected
Ethernet	Flickers Green	Ethernet active and traffic
CDS	Off	Collective display switch-off status off
CDS	Green	Collective display switch-off status active
R	Off or Yellow	Device not ready for operation
R	Green	Device is ready for operation

Network activities

Ethernet

Status and activities of the network connections are indicated by 4 LEDs. The LEDs labeled **Ethernet** indicate the LAN network connections and the internal **WeNet**- network connections of the central unit(s).

Conditions

CDS

The LED **CDS** indicates the disablement condition as general indication.

R

The LED **R** indicates the quiescent condition.

4.6.5. Control Buttons

Function buttons

The central unit ELISA III-IP is equipped with buttons on the front to control alarm announcements, operating conditions and restart of the device. These buttons are labeled with

- **Alarm**

  The **Alarm** button is used to trigger an alarm manually. Therefore, the button has been additionally secured with a transparent cover to prevent it from being pressed accidentally. The actual alerting announcement and the voice alarm zones are defined with the configuration.

- **Clear/Reset**

  When the device enters the voice alarm condition, the fault warning condition or the system malfunction condition, an acoustic beeper sounds. A short press of the button **Clear/Reset** mutes the signal generator.

  Important The acoustic signal does not sound with ELISA III-IP systems without voice alarm condition function.

- **Acoustic off**

  By pressing the **acoustic off** button will mute the voice alarm announcement while the device remains in the voice alarm condition. Press the button again **acoustic off** restarts the voice alarm announcement.

Button	Description
Clear/Reset	In voice alarm condition: • Press less than 3 secs.: Acoustic signal is switched off system-wide. • Press between 3 and 10 secs.: Voice alarm condition is reset (all-clear) and **Alarm** LEDs become inactive. • Longer than 10 secs.: Device is restarted. In fault warning condition and if a system error is detected: • Press less than 3 secs.: Acoustic buzzer signal for fault message is switched off. • Press between 3 and 5 secs.: System error watchdog LED **WD** is deactivated. • Longer than 10 secs.: Device is restarted. **Important** A fault warning condition is automatically reset, and the **Fault** LED is deactivated when the device detects a fault free condition. In quiescent condition: • Longer than 10 secs.: Device is restarted.
Alarm	With appropriate configuration settings by pressing this button the voice alarm condition will be manually activated and the configured alarm sequencer starts. **Important** No alarm is triggered if the button has not been configured in configuration application **WeView** . The alarm button must be enabled by an authorized RFID tag close to the LC display area if at least one access authorization **alarm** has been configured in the **Administration** area for **RFID** in **WeView** . The alarm button is protected against inadvertent activation by a protective cover.
Acoustic off	• First press: Acoustic alarm announcement is silent (**Acoustic off**), system remains in voice alarm condition. • Second press: Acoustic alarm announcement is restarted. • Each further pressing toggles the acoustic alarm announcements between muted and unmuted.

Table 3. Functional description of the buttons

Navigation buttons

Next to the LCD display there are two navigation buttons that guide you through the menu of the central unit and enable various settings.

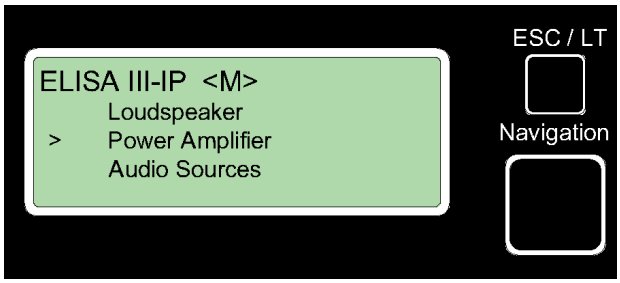
- **ESC/LT**

  Briefly pressing the **ESC/LT** button calls up the escape function, which causes an action currently being performed to be aborted. If the **ESC/LT** button is pressed for longer than three seconds, a lamp test that checks all LEDs is called up.

- **Navigation**

  The button **Navigation** functions as a **5-way navigation button**. Different functions such as selection, up and down, left or right are called up by pressing directly or laterally on one of the four edges.

4.6.6. LCD Display (Non-Mandatory Information)



For a better overview and in addition to the LED indications further information is displayed on the LC-Display on the front panel. Press the 5-way navigation button and the button **ESC** to navigate through the menu. In the basic state the following information is displayed on the top level 1:

In the basic state, the following information is always displayed in the top **level 1** :

- Name: Description according to **WeView** configuration

  Note In the device with master module is additionally **<M>** displayed.
- Total faults (new faults)
- Date and time (current system time).

  Note The date and time in the display will blink if there is no synchronization with a NTP server.
- Loudspeaker lines

In addition, depending on the configuration settings, following local data can be retrieved:

- Amplifier
- Audio sources
- General purpose in-/outputs
- Ambient Noise
- Network (only on the device with master module)

Press the 5-way navigation button to enter next menu level and press the button **ESC** to move back. The complete menu structure is shown on the following page. The displayed information varies depending on the configuration settings and licensing

For an overview of the menu structure within the LCD display, see Appendix B, LCD Navigation Diagram [161].

4.7. USB-Ports

There are two **USB 2.0 ports** for standard **Type-A connectors** on the front of the central unit.

The top USB port (service port) works in **device mode**. The 5 volt supply is disabled.

To connect a laptop via USB to the central unit (e.g. to run the web application **WeView** from **WENZEL Elektronik GmbH**), a USB-A to USB-A cable is required. For

devices with master module the fixed IP address `192.168.42.1:8080` is set up and equipped with an integrated DHCP server.

IMPORTANT

- Connect a notebook **just** to the **upper USB port** of the devices with master module. The USB ports of devices without a master module have no function.
- A driver has to be installed for the Windows operating system.

The lower USB port works in **host mode**. Data storage (e.g. USB memory), USB WIFI adapter or USB Bluetooth adapter can be connected to this port.

IMPORTANT

The **lower USB port** is currently inactive. This functionality will be available with a later firmware version.

4.8. Signal Buzzer

Note

The signal buzzer is not activated on devices without voice alarm function.

The central unit ELISA III-IP is equipped with an acoustic sound source. The signal buzzer will sound if the device changes to the following conditions:

- Voice alarm condition
- Fault warning condition
- System error (LED **WD**, watchdog).

The sound is audible cyclically for 0.5 seconds and a pause of 1.5 seconds. The signal buzzer can be muted by pressing the button **Clear / Reset** for less than three seconds.

Tip

TEMPORARILY DISABLE THE BUZZER

The acoustic signal buzzer can be temporarily switched off and also switched on again via the configuration interface **WeView** by activating the **service mode**. Switching off is useful to ensure undisturbed work on the system.

The **service mode**, however, is automatically disabled, when the system restarts. The acoustic signal buzzer is switched on again.

4.9. Master Module

4.9.1. Description

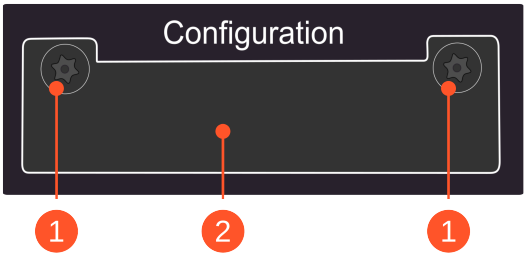
The FPM master module contains a TPM chip designed for basic security functions, but also for licensing a wide variety of functions. Furthermore, the module stores important system information, configuration files of all system components and the audio files. It defines the device in which it is used, either as a master or as a back-up master in the system network.

4.9.2. Functional Description

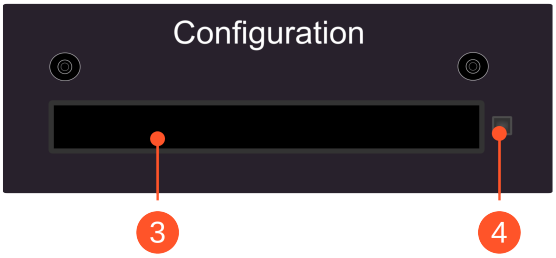
The master module is used for the following central system components:

- CE-VAS4
- ELISA III-IP
- CE HOST

The card slot for the master module is located on the right front side of the master device and is secured with a protective cover. The slot is marked with the inscription **[configuration]**.



Card slot with cover



Card slot without cover

Item	Designation
1	Internal torx screws
2	Cover
3	Card slot
4	Eject button

Unscrew the screws holding the cover with a Torx TX10 BO screwdriver to access the card slot.

4.9.3. View

Figure 16. Master module

4.9.4. Connectors

NOTICE

NO CF CARD CONNECTOR

The master module connector is not a CF card slot. If a CF card is inserted into the card slot, the card will be destroyed and the device and the card slot will be irreparably damaged.

- Only use the master modules intended for the card slot.
- Do not insert a CF card into the card slot.

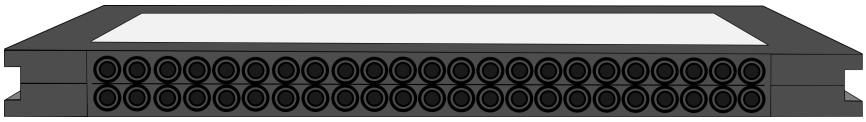


Figure 17. Connections of the master module

The master module is inserted straight and carefully into the card slot (3). The card can be removed again using the eject button (4).

5. System Connector

The rear-mounted system connector collects all interfaces on a rail of 16x RJ-45 sockets. The connections to the LAN network, the **WeNet**, the ports of the fire detection system and all other components and devices of the voice alarm system are made with standardised RJ-45 patch cables.

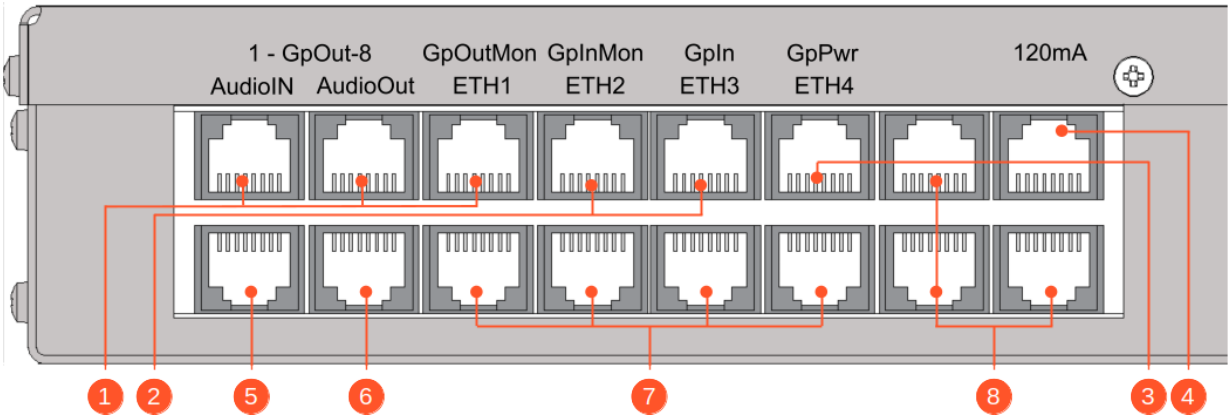


Figure 18. System connector

Item	Description	Item	Description
1	12x control outputs **[GPOut]** and **[GpOutMon]**	5	4x audio inputs **[audio in]**
2	8x control inputs **[GPIn]** and **[GpInMon]**	6	4x audio outputs **[audio out]**
3	2x control voltage output **[GpPwr]**	7	Inputs LAN and **WeNet**
4	4x measuring amplifier inputs **[I20mA]**	8	Reserve

Note Information in square brackets **[...]** shows the imprint on the housing.

5.1. Control Inputs GpIn and GpInMon

The central unit provides 8 control inputs with markings **[GPIN]** and **[GpInMon]**. Please note the following:

- All 8 control inputs can be used as **unmonitored** control inputs or, for connection to a fire alarm detection system, can be configured as **monitored** control inputs.
- The 4 control inputs with the label **[GpInMon]** can also be configured as **monitoring** control inputs for connection to a fire detection system or manual call point.

Please refer to table below for the pin assignment of the control inputs.

Pin	Signal
1	GpIn-3A
2	GpIn-3B
3	GpIn-2A
4	GpIn-1A
5	GpIn-1B
6	GpIn-2B
7	GpIn-4A
8	GpIn-4B

Pin	Signal
1	GpInMon-7A
2	GpInMon-7B
3	GpInMon-6A
4	GpInMon-5A
5	GpInMon-5B
6	GpInMon-6B
7	GpInMon-8A
8	GpInMon-8B

Table 4. Pin assignment [GpIn] and [GpInMon]

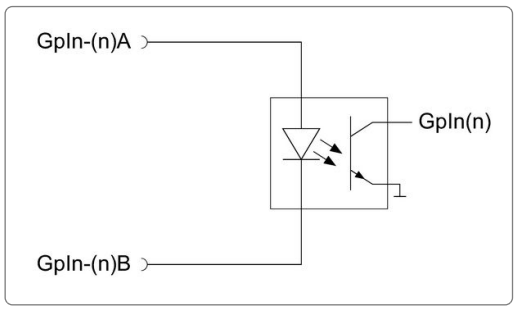
Note

CONFIGURATION IN WEVIEW

The property of a control input is defined in the configuration application **WeView**,

Unmonitored control inputs, [GpIn] and [GpInMon]

The central unit provides 8 unmonitored control inputs.



Schematic diagram

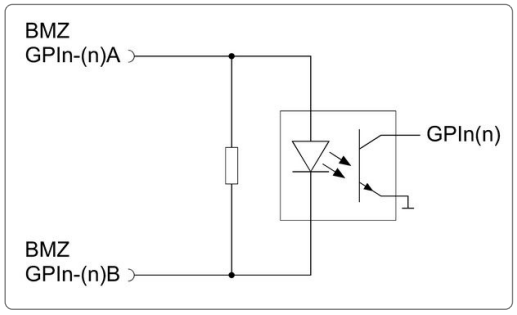
Figure 19. Control inputs, [GpIn] and [GpInMon]

Quiescent current monitored control inputs, [GpIn] and [GpInMon]

The central unit provides 8 quiescent current control inputs, e.g. for connection to a fire detection system (FDS). The FDS monitors the connection path.

For this purpose, an internal resistor is switched into the input by configuration. This enables the fire detection system to continuously check the connection to the central

unit. The internal resistor has automatic protection against excessive operating voltages (30V to 60V). The input is therefore protected against damage in the event of incorrect configuration.



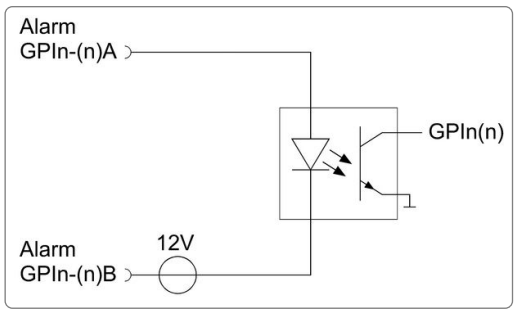
Schematic diagram

Figure 20. Control inputs, [GpIn] and [GpInMon]

Quiescent current monitoring control inputs, only [GpInMon]

The central unit provides 4 quiescent current monitoring control inputs, e.g. for connection to a fire alarm detection system (FDS) or to a manual call point.

With appropriate configuration, the control input generates a quiescent current using an internal 12V voltage source, which monitors the connection path to the FDS or to the manual call point. The activation of the control output of the FDS or the manual call point button is detected by the control input and the central unit changes to the alarm condition, if it is installed as a voice alarm system.



Schematic diagram

Figure 21. Control inputs, only [GpInMon]

5.2. Control Output GpOut

NOTICE

DAMAGE DUE TO EXCESSIVE CURRENT LOAD

The isolated control outputs of the product are not protected against excessive current loads. The device can be severely damaged.

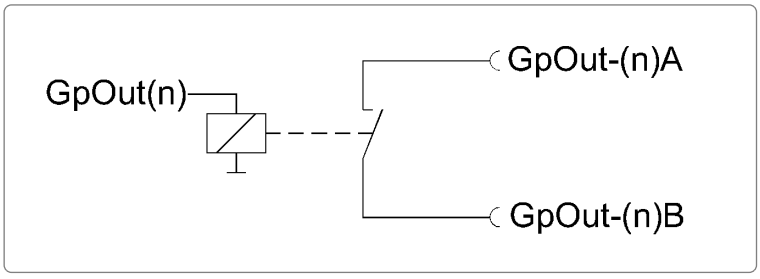
- The maximum voltage 60V must not be exceeded.

The central unit provides 8 standard control outputs [**GpOut**].

Pin	Signal
1	GpOut-3A
2	GpOut-3B
3	GpOut-2A
4	GpOut-1A
5	GpOut-1B
6	GpOut-2B
7	GpOut-4A
8	GpOut-4B

Pin	Signal
1	GpOut-7A
2	GpOut-7B
3	GpOut-6A
4	GpOut-5A
5	GpOut-5B
6	GpOut-6B
7	GpOut-8A
8	GpOut-8B

Table 5. Pin assignment [GpOut]



Schematic diagram

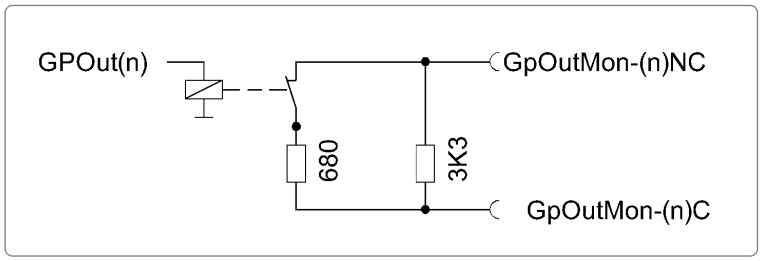
Figure 22. Control output [GpOut]

5.3. Control Output GpOutMon

For the connection to a fire detection system (FDS) the central unit provides 4 quiescent current monitored control outputs [**GpOutMon**]. Two are designed as normally open (NO) and two as normally closed (NC).

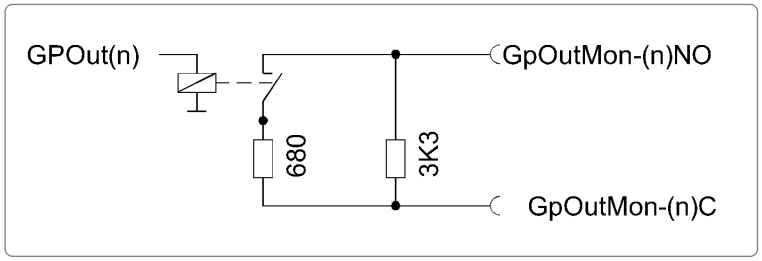
Pin	Signal
1	GpOutMon-3NO
2	GpOutMon-3C
3	GpOutMon-2NC
4	GpOutMon-1NC
5	GpOutMon-1C
6	GpOutMon-2C
7	GpOutMon-4NO
8	GpOutMon-4C

Table 6. Pin assignment [GpOutMon]



Schematic diagram

Figure 23. Control output [GpOutMon] normally closed (NC)



Schematic diagram

Figure 24. Control output [GpOutMon] normally open (NO)

5.4. GpPwr Auxiliary Output

Note

AVAILABLE OUTPUT VOLTAGE

The [**GpPwr**] connector provides 2x 12Volt output voltage at maximum output current of 50mA.

Pin	Signal
1	+12V
2	0V, externally grounded
3	Not connected
4	Not connected
5	Not connected
6	Not connected
7	+12V
8	0V, externally grounded

Table 7. [GpPwr]

5.5. I20mA Measuring Amplifier

The central unit ELISA III-IP is equipped with 4x 20mA (4-20mA) measuring amplifiers.

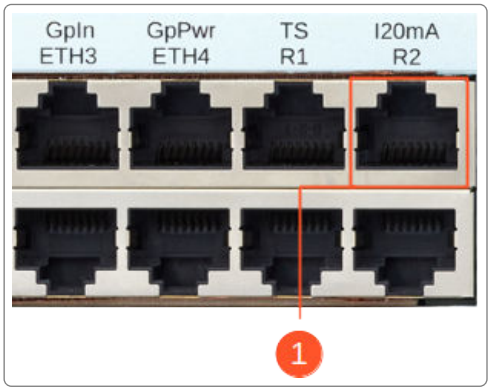


Figure 25. I20mA connection to ELISA III-IP

Ambient noise sensors are to be connected to these connectors.

Figure 26. Ambient noise sensor

The sensors measure the ambient volume both periodically and immediately before an announcement. The respective announcement volume depends on the measurement result and the configured setting.

Pin	Signal
1	Output 3+
2	Output 3-
3	Output 2+
4	Output 1+
5	Output 1-
6	Output 2-
7	Output 4+
8	Output 4-

Table 8. [I20mA]

5.6. ETH1-ETH4 LAN and WeNet

These four interfaces, marked with **[ETH1]** until **[ETH4]**, are the central system interfaces within the device family, with the exception of the **[ETH1]** of the master device, which serves as LAN access.

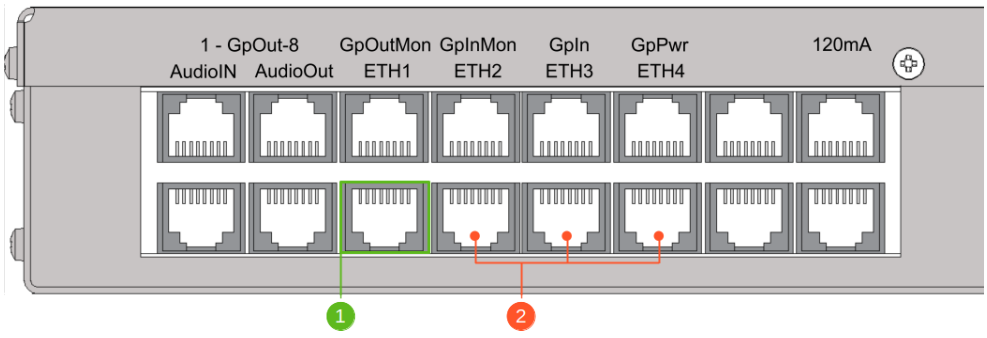


Figure 27. Master Unit

Item	Description
1	**[ETH1]** LAN connection with distinct IP address (see also Access to WeView [101])
2	**[ETH2]**, **[ETH3]**, **[ETH4] WeNet** Interfaces

On devices with a master module the Ethernet port **[ETH1]** is pre-configured to the fixed IP address `192.168.0.181`. The port can be assigned with a different IP address (according to project specification) and, thus, is the interface to an external IP-network.

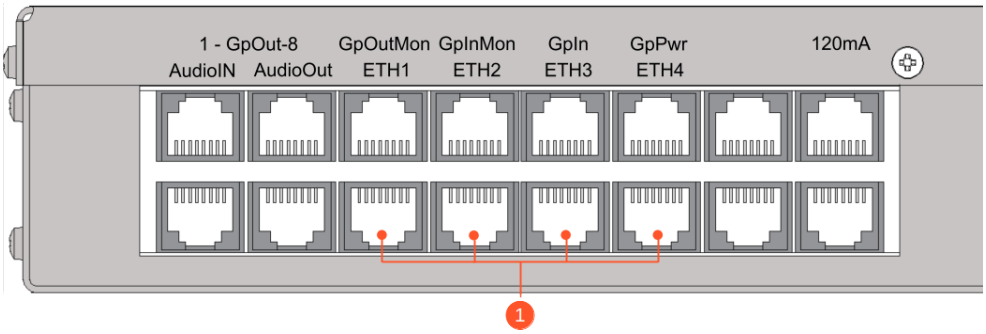


Figure 28. Slave Unit

Item	Description
1	**[ETH1]** ,**[ETH2]**, **[ETH3]**, **[ETH4] WeNet** Interfaces

In the case of devices without a master module, the ports are defined **[ETH1]-[ETH4]** as **WeNet**-Interfaces in the factory delivery state.

PoE Support

The ports support Power over Ethernet (PoE) according to IEEE 802.3af Class 0-3 PSE (Power Source Equipment). See chapter Technical Data [153] for more details.

Pin	Signal
1	RX+
2	RX-
3	TX+
4	PoE+
5	PoE+
6	TX-
7	PoE-

Pin	Signal
8	PoE-

Table 9. [ETH1] - [ETH4]

5.7. AudioIn

Up to 4 audio input channels can be configured. For technical details See chapter Technical Data [153].

Pin	Signal
1	Input 3+
2	Input 3-
3	Input 2+
4	Input 1+
5	Input 1-
6	Input 2-
7	Input 4+
8	Input 4-

Table 10. [AudioIn]

5.8. AudioOut

Up to 4 audio output channels can be configured. For technical details see chapter Technical Data [153].

Pin	Signal
1	Output 3+
2	Output 3-
3	Output 2+
4	Output 1+
5	Output 1-
6	Output 2-
7	Output 4+
8	Output 4-

Table 11. [AudioOut]

5.9. Other Connectors

5.9.1. Speaker Connectors

The 100V speaker lines are connected to the speaker outputs **[LS Out]**. The loudspeakers of the A lines are connected in the upper part of the connector, those of the B lines in the lower part.

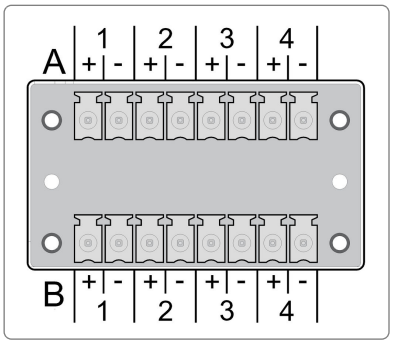


Figure 29. Speaker connectors [LS out]

Two 8-pin plugs are included in the scope of delivery for connecting the speaker lines. Conductor cross sections up to 1.5 mm² (AWG16) can be used. A conductor diameter of at least 0.8 mm must be observed.

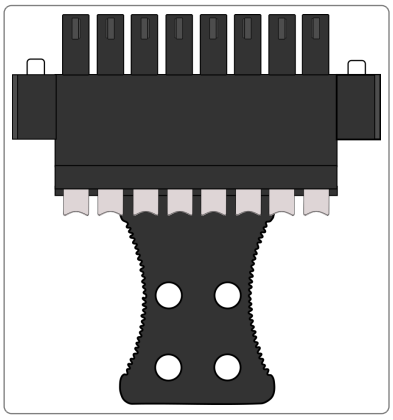


Figure 30. Loudspeaker plug 8-pin

IMPORTANT **CONDUCTOR CROSS-SECTIONS**

- Conductor cross-sections of 1.5 mm² (AWG16) are recommended.
- Do not use conductor cross-section less than 0.8 mm^2.

5.9.2. Standby Amp Connector

The connector **[stand by amp]** routes, if an amplifier failure is detected, the outputs of an internal amplifier to the loudspeaker line of the defective amplifier.

The appropriate wiring of the connector and the configuration settings, which controls the internal relay matrix, enable various emergency concepts.

Find out more in chapter Back-up concepts [37]

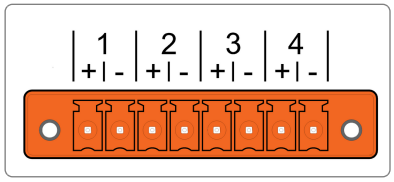


Figure 31. Standby Amp connector [Standby Amp]

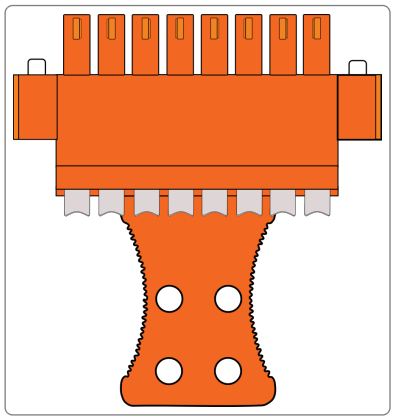
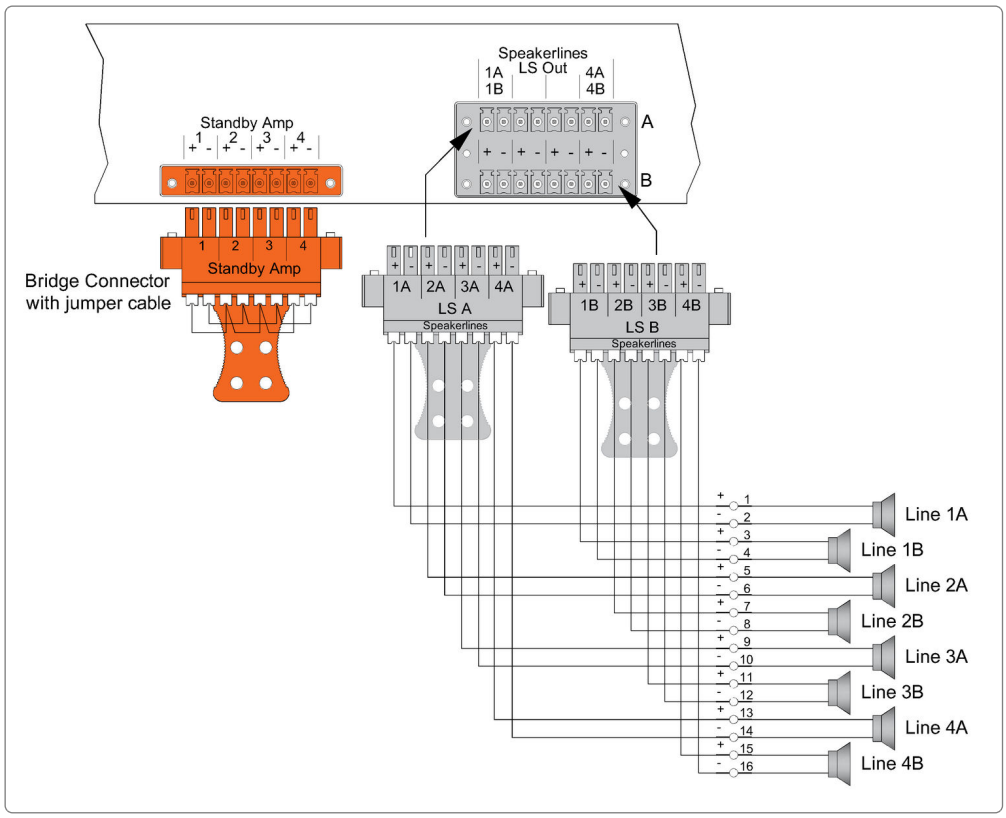


Figure 32. Plug for standby amp connector (included)

The following figure shows an example wiring of the loudspeaker lines using the bridge connector. This connector is required so that a standby amplifier can take over the loudspeaker lines of a failed amplifier.



5.9.3. Power Supply 230V$_{AC}$

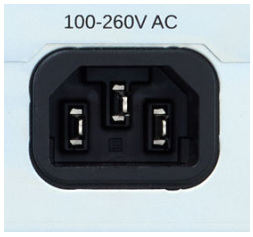


Figure 33. Connection on the device for C13 cold appliance socket

The central unit is supplied with 230 Volt mains voltage.

The supplied cold appliance cable is used for this purpose. Only connect the cable after completing all wiring measures.

5.9.4. Power Supply 48V_{DC}

Figure 34. Connector 42-60V_{DC}

This connector is part of the emergency power supply concept and is usually only used for this purpose.

Connect a 48VDC power source to the [**42-60V_{DC}**] input with a 2-pin connector Weidmüller. The connector is included in the scope of delivery.

Conductor cross-sections of up to 6 mm² (AWG10) can be used on the connector. The DC voltage connector is protected against reverse polarity and overload. Recommended connection cable: Flexible CU stranded wire, LiY, 4 mm².

6. Installation and Assembly

6.1. Cabinet Selection

The status LEDs used for the mandatory displays must be visible without the cabinet door having to be opened beforehand. One possible solution is to use a glass cabinet door.

Note

The cabinet must have a protection class of IP30 or better (openings smaller than 2.5 mm).

The operating temperature range within the cabinet is 0 - 40 ° C. Depending on the number of installed devices, a cooling air exchange must be taken into account. A supply of cool air on the underside and an opening to let out the hot air in the upper part of the switch cabinet are required for this. If several units are housed in one case, an additional fan is necessary for better air circulation.

Tip

We recommend using the cabinets offered from **WENZEL Elektronik GmbH** to which these assembly instructions generally refer.

6.2. Construction of Cabinet and VACIE

DANGER

HAZARD IN RESTRICTED ACCESS AREA

Unauthorized and non-professionals within the meaning of **IEC 62368-1** can be seriously injured and electrocuted.

- The cabling and installation may only be carried out in an area with restricted access.
- The restricted area may only be entered by specialists as defined in **IEC 62368-1**.
- Before starting work in this area, the mains must be disconnected by pulling the mains plug from the appropriate sockets.
- Alternatively, the mains can be disconnected by switching off the circuit breaker or another disconnecting device.

Note

VISIBLE FRONT

The status LEDs used for mandatory indications of the devices should be visible and accessible without having to open a closed door first. The use of a lockable and glazed front door is a reasonable solution.

IMPORTANT

MINIMUM REQUIREMENTS FOR THE CONTROL CABINET

The control cabinet must have the degree of protection **IP30** or better (openings must be less than 2.5 mm).

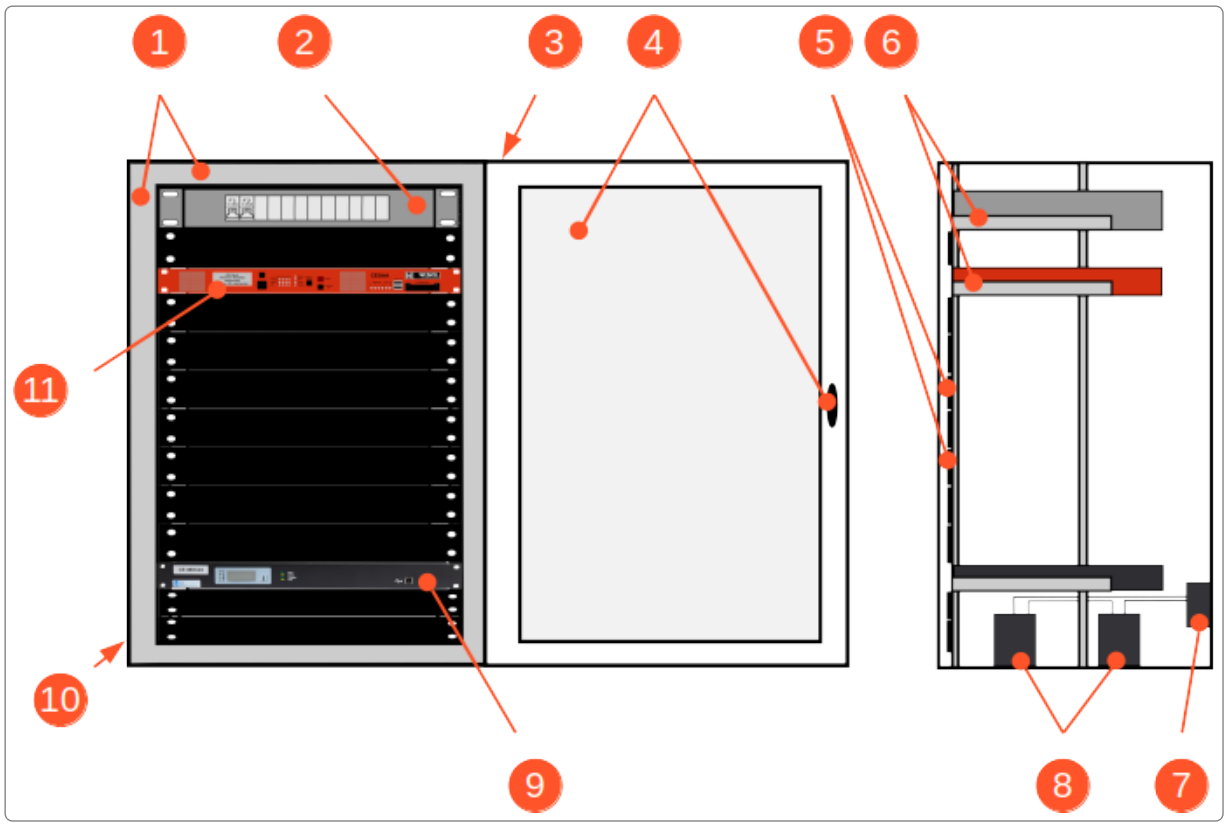


Figure 35. Cabinet example in front view and side cross-section

Pos.	Designation	Pos.	Designation
1	Cabinet	6	Mounting rails
2	Main circuit breaker 1 x Fi 16A for two devices	7	Circuit breaker for battery 1 Fi 16A
3	Side opening for hot air discharge	8	Batteries for emergency power supply
4	Glazed front door, lockable	9	Emergency power supply control unit
5	Front panels	10	Side opening for cold air supply
11	Central unit		

6.2.1. Grounding

Proper grounding is mandatory. A ring cable lug must be used to connect a ground cable to the **M5 bolt** on the central processing unit.

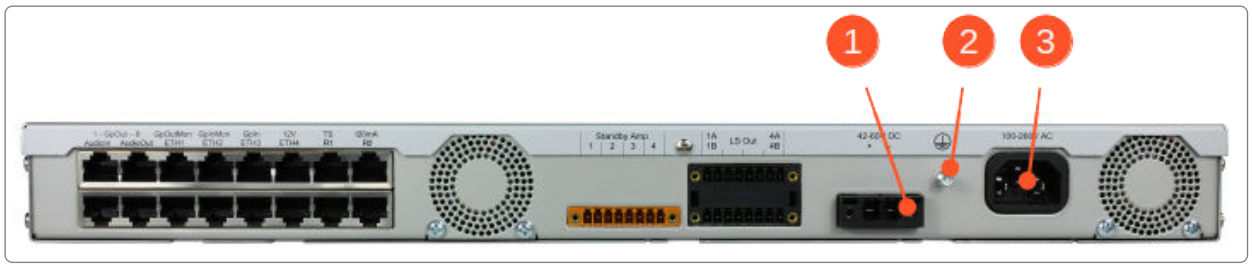


Figure 36. Power supply connections

Pos.	Designation
1	$48V_{DC}$ Emergency power supply
2	Grounding
3	Power connection

6.2.2. Connection of the Power Supply

DANGER

ELECTRIC SHOCK IN THE CONTROL CABINET

When mounting in the control cabinet, there may be live loose cable ends. Even accidental contact may cause serious injury or death.

- If the control cabinet cannot be switched off when replacing a defective device, always switch off the power supply to this device before starting disassembly.
- Ensure that all cabling and wiring work is completed before power is applied.
- All circuit breakers in the circuit breaker unit are switched off.

The power supply to the control cabinet must be established in accordance with the **VDE 0833-4** standard. Therefore, a separate circuit with specially marked fuse protection must be used for the energy supply from the electrical network.

It is recommended to use the $230V_{AC}$ to connect the input of a central unit via an additional (observe selectivity) circuit breaker (fuse) in the cabinet to the power supply. In case of a defect of a central unit (short circuit) this would only disconnect the central units protected by the same circuit breaker from the mains. Furthermore, it enables an uncomplicated disconnection from the mains if the cabling is not freely accessible, e.g. B. in a control cabinet without a swing frame.

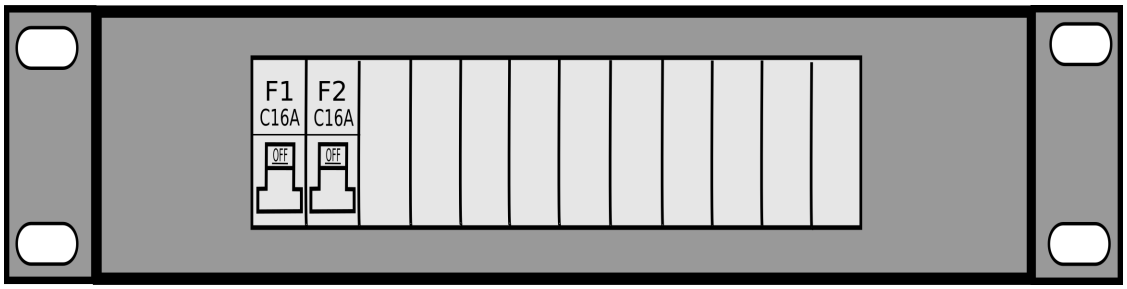


Figure 37. Circuit breaker unit as 19 "version

IMPORTANT **MAXIMUM PROTECTION**

The number of central units to be protected must not exceed two devices per “Fi C16A” circuit breaker.

6.2.3. Connection of the Emergency Power Supply

The $48V_{DC}$ input of the central unit is connected to the emergency power supply. The performance requirements of each installation may require the use of a Y-cable to connect the $48V_{DC}$-Input on two 48V / 15A emergency power supply outputs. Recommended connection cable: Flexible copper wire, H07V-K, 2.5 to 6mm².

6.2.4. Backup Amplifier and Loudspeaker Lines

The jumper plug (orange) is attached to the **[Standby Amp]**-Connection. If a single emergency amplifier has been designed, all "+" contacts and all "-" contacts of the central unit must be connected.

If a different configuration is required, further information can be found in the chapters on the emergency concepts in the operating instructions for the central unit.

The speaker lines are with the **[LS Out]** Outputs connected. An example is shown in the figure below. Further details, e.g. pin assignments, are given in the respective operating instructions.

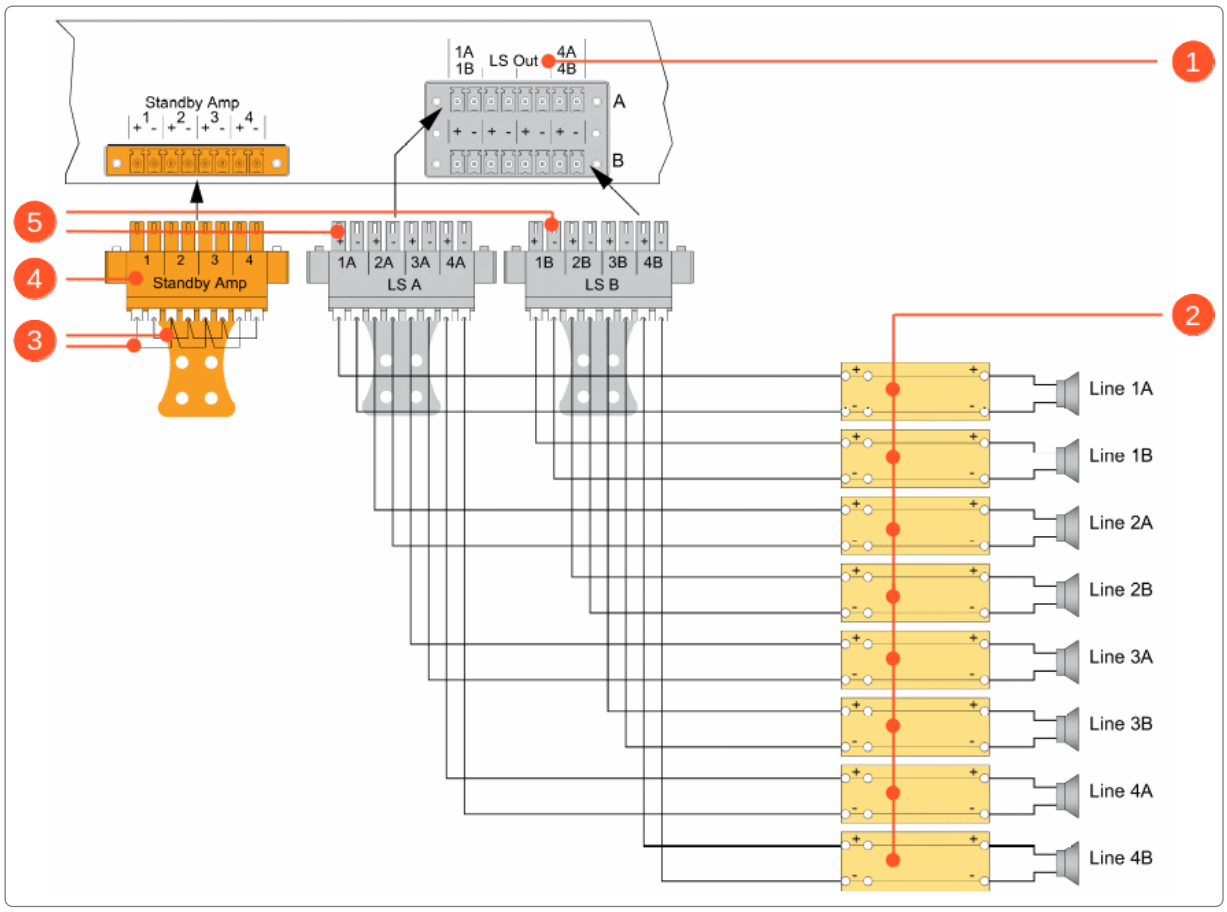


Figure 38. Example of pin assignments on loudspeaker lines

Pos.	Designation	Pos.	Designation
1	Speaker lines	4	Jumper plug
2	Double level terminal blocks for connecting the loud-speaker lines, terminals from top to bottom 1-6	5	Plug connections
3	Wire bridges		

Further information on the topics: Average and security levels can be found in the respective operating instructions for the central units, the chapters **Average concepts**, the **Disaster settings** and the **Test procedure** refer to.

6.2.5. Output Power greater than 150W

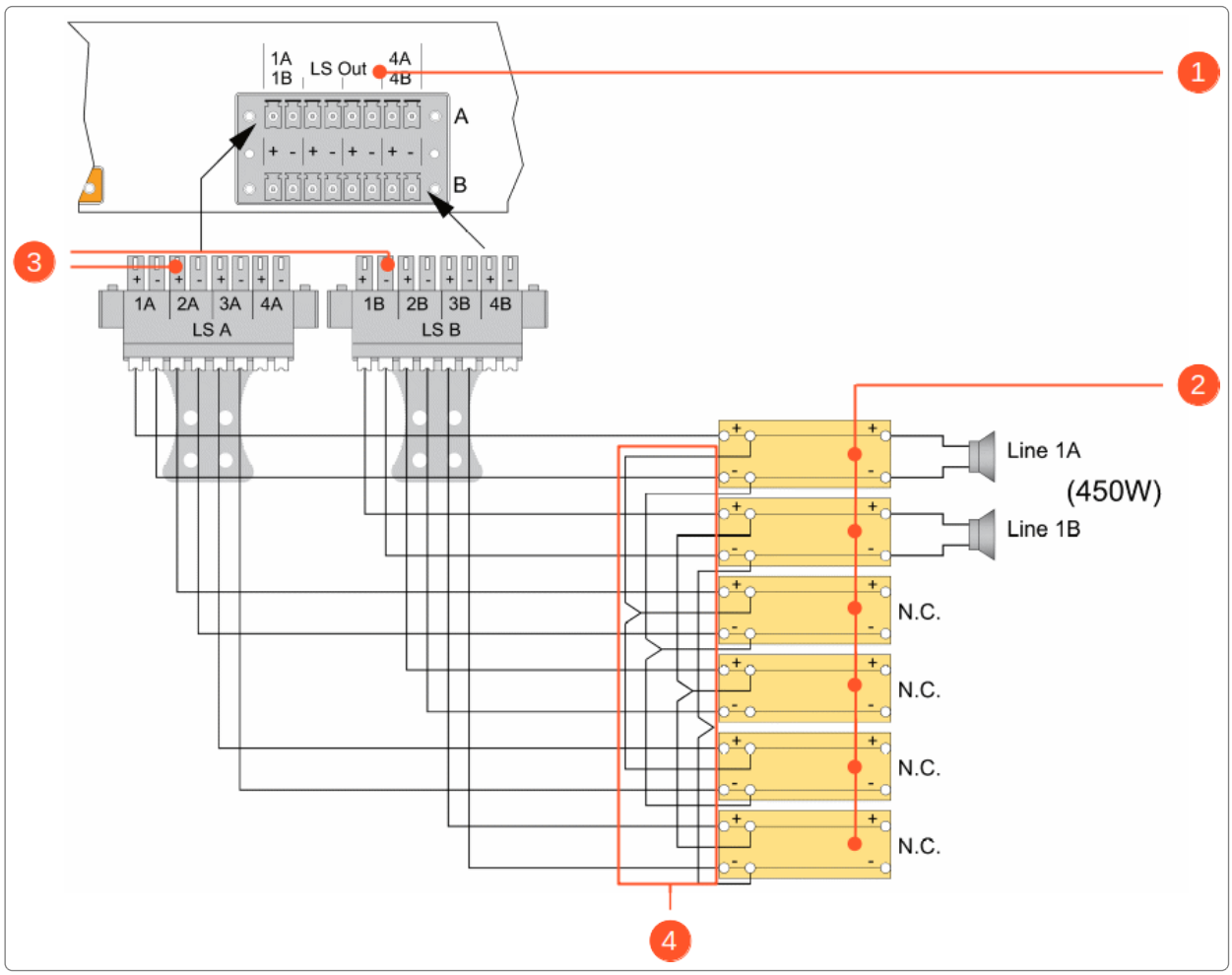


Figure 39. Example of pin assignments for higher performance

Pos.	Designation
1	Speaker lines
2	Double level terminal blocks for connecting the loudspeaker lines, terminals from top to bottom 1-6
3	Plug connections
4	Wire bridges

A maximum output power of 150W per amplifier is available from the central unit. The output power can be increased to 300W, 450W or 600W by connecting the amplifier outputs in parallel. This can be achieved by wiring (bridges) in the sub-distribution board rather than directly to the loudspeaker terminals. Please refer to the illustration for the wiring required to achieve a 450W output power.

In the context of SAA, sub-distribution boards are typically not required. It is recommended to avoid installing wire bridges directly on the device, and instead install them on the rear wall of the cabinet or at the transfer point of the building cabling. This will create a longer cable line between the device and the wire bridge.

IMPORTANT **INCORRECT IMPEDANCE MEASUREMENT**

To ensure accurate impedance measurements at low loads (e.g. 100W with 300W cabling) during sound reinforcement, it is important to avoid connecting wire bridges directly to the loudspeaker terminals. This is because the output currents may be distributed unevenly, leading to incorrect measurements. Instead, it is recommended to use amplifiers connected in parallel only when the connected load requires it.

6.2.6. End-of-Line Modules (EOL)

The Wenzel VACIE is designed to be operated without the usage of EOL modules, because the speaker line measurement accuracy of the central unit is very precise and reliable.

However, one of the following events may require the installation of an EOL module.

- Continuously played background music in fire sections or alarm areas with A/B wiring.
- Application of manual volume controls, but only if the impedance is changed by those controls by more than the configured tolerance value in the respective section in **WeView**.
- When using an external amplifier unit (e.g. CE-AMP224).

There are three types of modules available, which shall be installed as described in following subsections.

CE-EOL2

The EOL module CE-EOL2 must be placed and mounted inside the cabinet and has to be connected to a control input **[GpIn]** without activated monitoring function. The **[GpPwr]** Output of the central unit can be used as auxiliary voltage to feed the signal to the control input **[GpIn]** of the voice alarm central unit.

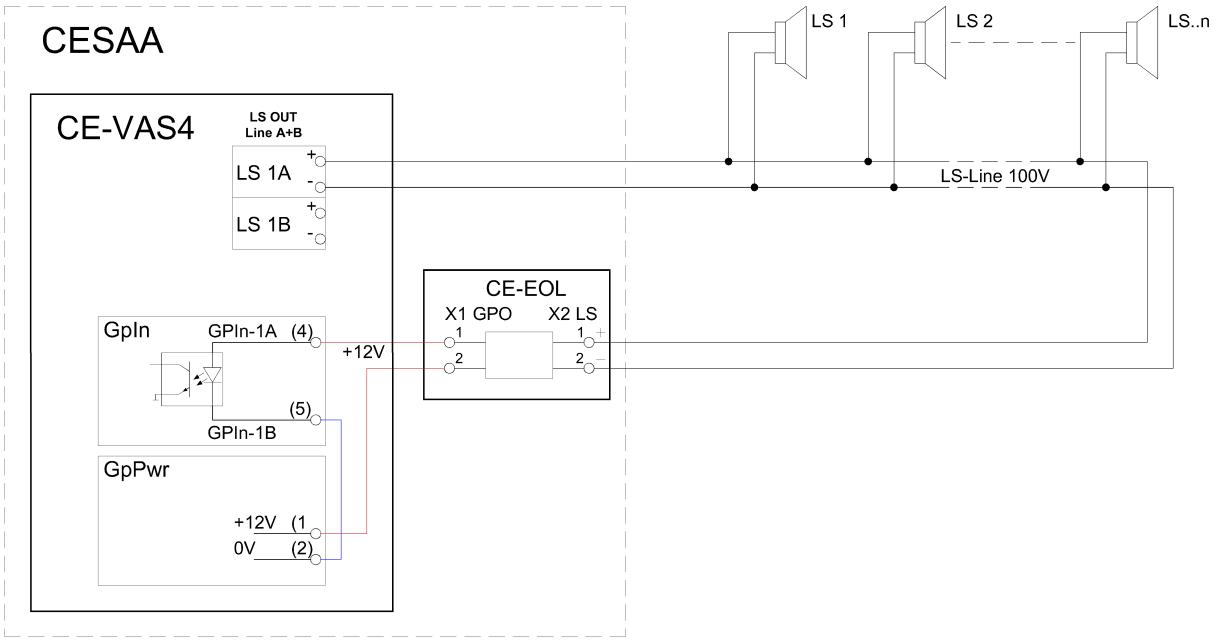


Figure 40. Wiring example CE-EOL2

CE-EOLM

The EOL module CE-EOLM can be placed outside the cabinet, preferably at the end of the speaker line. It must be connected to a quiescent current monitoring control input **[GpInMon]** of the voice alarm central unit.

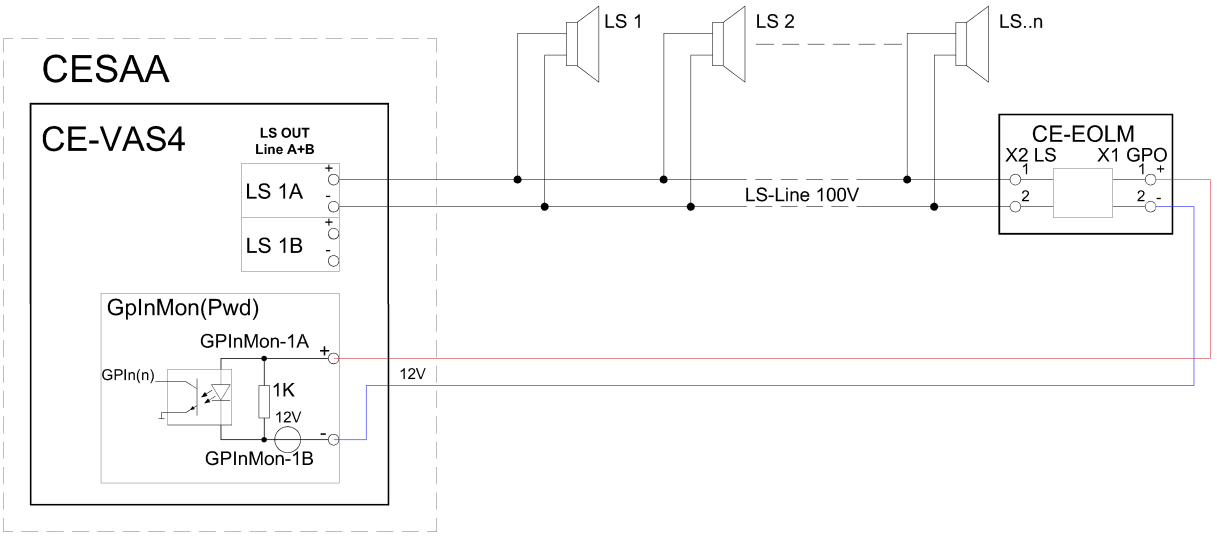
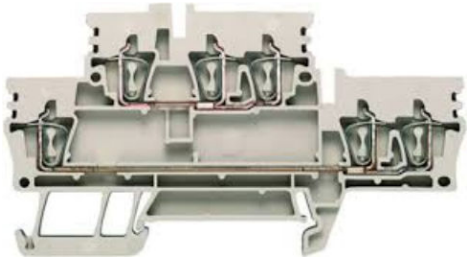
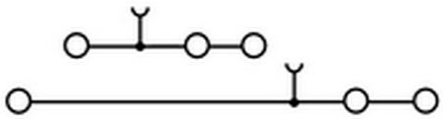


Figure 41. Wiring example CE-EOLM

6.2.7. Terminal Strips

To connect the 100V loudspeaker lines, the use of double-level terminal blocks (**WENZEL Electronics GmbH**, Material number: 22-3-232-2848) is recommended. This simplifies installation and allows bridging to increase the output power to over 150W per line.





Double level terminal

The end plate is available with material number 22-3-232-3893.

6.2.8. System interfaces

The connections of the system interface are assigned according to the project requirements and the selected functionalities.

More details, e.g. B. like the pin assignments, see chapter System Connector [58].

6.2.9. Terminal Blocks

For problem-free installation of the system interfaces at the transfer point of the control cabinet, the use of the **WENZEL Electronics GmbH** Connection blocks recommended. They are designed for top-hat rail mounting and are available in the following variants:

Material number	Type/Model	Description
22-1-308-350-820	CE-RJTB4 KL	4-way connection block RJ-45 on spring clamp terminal
22-1-308-350-821	CE-RJTB4 SK	4-way connection block RJ-45 on insulation displacement contacts
22-1-308-350-824	CE-RJTB4 KLS	4-way connection block RJ-45 on screw terminal
22-1-308-350-822	CE-RJTB2 KL	2-way connection block RJ-45 on spring clamp terminal
22-1-308-350-823	CE-RJTB2 SK	24-way connection block RJ-45 on insulation displacement contacts

Material number	Type/Model	Description
22-1-308-350-825	CE-RJTB2 KLS	2-way connection block RJ-45 on screw terminal

The figure shows a terminal block with insulation displacement terminals (below) and with spring clamp terminals (above) before the supply lines are connected.

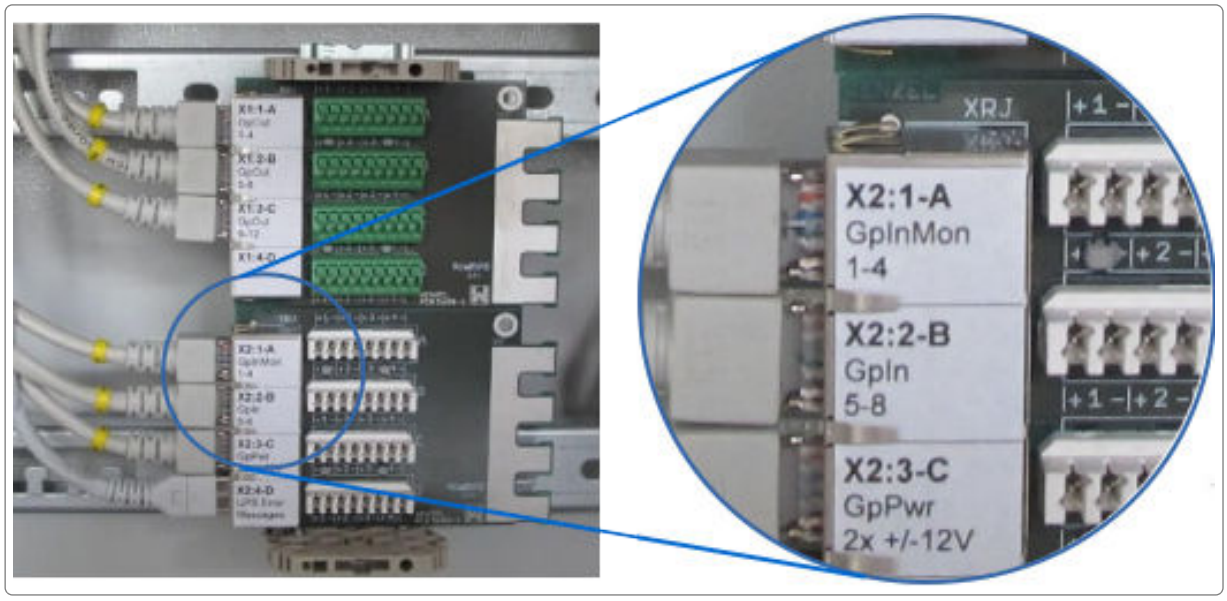


Figure 42. 4-way terminal blocks with labeling

6.2.10. Insert master module

NOTICE

DATA LOSS WARNING

If a configuration is written and the card is removed at the same time, data will be lost.

- A master module may only be removed or inserted when the ELISA III-IP is switched off.

IMPORTANT

The cover may only be opened or removed to insert or replace the master module.

The master module is located in the card slot on the right front and is secured with a protective cover.

The slot is marked with **[Configuration]** on the front.

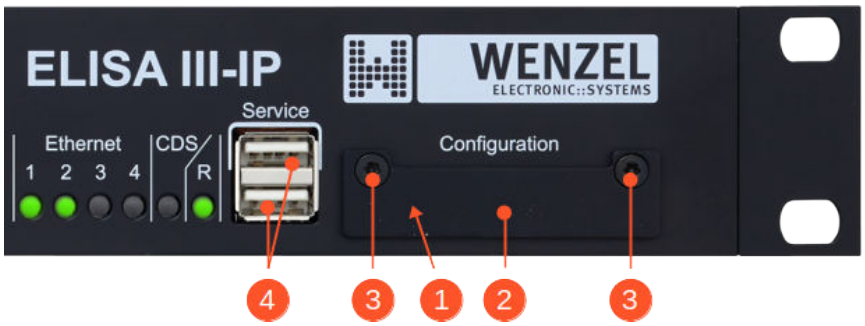


Figure 43. Master module ELISA III-IP slot

Pos.	Designation	Pos.	Designation
1	Slot for master module (behind the cover plate)	3	Inside torx screws
2	Cover plate	4	2 x USB ports

Note

Access requires a Torx TX10 BO screwdriver for internal Torx screws with a locking pin. (Is included in the scope of delivery.)

►Inserting a master module

Requirements

- The ELISA III-IP is switched off and de-energized.

Special tool or material

- Torx TX10 BO screwdriver

Action

1. Loosen the screws (3) with the Torx TX10 BO screwdriver while holding the cover plate (2).

   Note The screws are secured and remain on the cover plate so that they cannot be lost.
2. Remove cover plate (2).

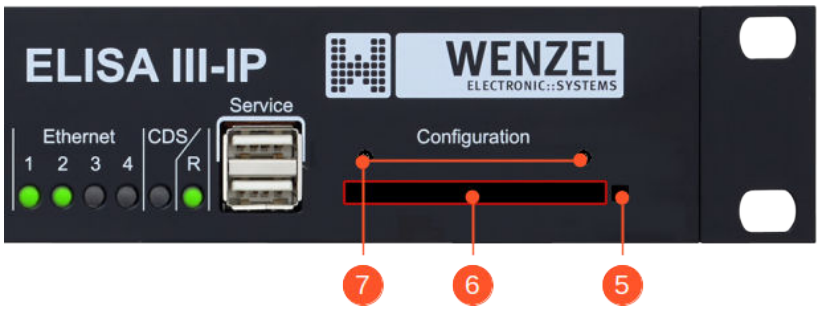


Figure 44. Slot without cover

Pos.	Designation	Pos.	Designation
5	Eject button	7	Thread
6	Card slot		

3. Note **Continue reading from here if there is still a master module in the bay.**
   a. Press the eject button (5).

      Note The master module slides out of the slot.
   b. Remove the master module.
4. Note **Continue reading from here if there is no master module in the slot (6).**

   Insert the master module carefully and straight into the card slot (6).
5. Put the cover plate (2) back on and hold it.
6. Tighten the screws with the Torx TX10 BO screwdriver.

►The master module was used

6.3. Assembly

⚠DANGER

DANGER FROM WORKING ON ELECTRICAL LINES

Insufficient preparation of the electrical installation can lead to serious injuries or death.

- Only electrical specialists are allowed to work on the products.
- Before starting work, the mains should be switched off and secured against being accidentally switched on again.

6.3.1. Installation site conditions

In general, the mounting or installation location must be selected so that the device is protected from the following conditions:

- Dripping or splashing water
- High ambient temperatures or direct exposure to heat sources
- High humidity
- Heavy dust

6.3.2. Cabinet Construction on Installation Site

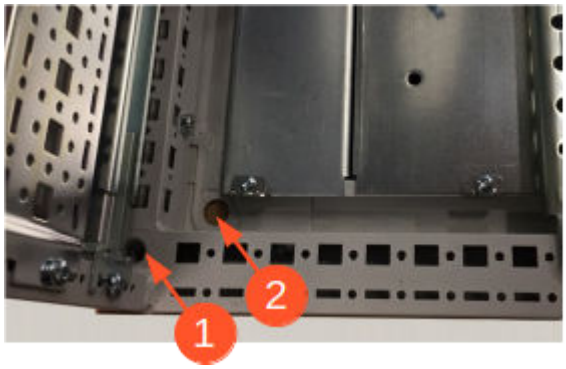
In order to ensure stable attachment of the cabinet, it is imperative that the cabinet be firmly connected to a wall or the floor. The material of the wall and floor has to be able to accommodate bolts and screws that will not loosen and will not come off the wall under load.

IMPORTANT

The assembly instructions for the control cabinet are to be read and all safety instructions in this manual are to be complied. Screws and nuts are to be securely fastened to the housing, wall or floor. Use only original parts and accessories from the manufacturer of the cabinet.

6.3.3. Floor Mounting

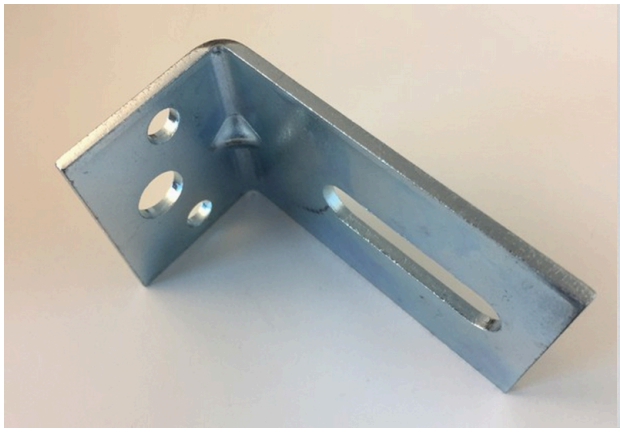
The control cabinets for floor mounting are designed for installation and fixing to the floor. They are provided with holes at the bottom (see marking in the figure below). Use only suitable screws and washers to secure the housing to the floor. It might be necessary e.g. B. due to uneven floor surfaces or cable glands in the lower area to mount a base under the cabinet. Therefore, the instructions for installing the base must be followed exactly.



Pos.	Designation
1	Mounting holes for the base
2	Mounting holes for direct floor mounting

6.3.4. Wall Mounting

Appropriate mounting brackets must be used to attach the cabinet to the wall. Use only suitable screws with washers to connect the mounting brackets to the control cabinet and the wall.



Mounting brackets

Assembly example

6.3.5. Rack Assembly

The devices of the **CESAA** and **ELISA III** Product family are designed exclusively for installation in a 19 "rack.

A mounting rail should preferably be used every two height units (HU). If there is enough space available, a free HU must be left over a central unit. This measure optimizes the passive cooling.

Further information can be found in the chapter Fan Concept [87].

6.3.6. Device Assembly in the Cabinet

NOTICE

RISK OF CABLE DAMAGE

If there is not enough space left in the depth to safely lay the cables, breaks and functional losses can occur.

- An additional space requirement in the installation depth of at least 90mm should be taken into account when wiring.

IMPORTANT

Fuse outlets or sockets to which the VACIE is connected have to be easily accessible and clearly marked.

Devices to be installed are depending on the project:

- Central unit
- Emergency power supply
- Batteries
- Installation including 48V circuit breaker (fuse)

The following causes can lead to a higher power loss, which results in an increased temperature in the device:

- High ambient temperature (high room temperature or limited exchange of air in the control cabinet)
- Continuous background music (amplifier often or always switched on) Shortened line monitoring cycle (standard cycle is 95 seconds)
- Lack of passive cooling of the central unit on the top and bottom (central units are stacked directly on top of each other)
- The air filters in the ventilation inlets and outlets are dirty
- High load from the connected loudspeaker lines

After all devices and components have been installed in the cabinet, the remaining openings have to be closed with the appropriate number of front panels. This measure ensures that an unsuitable person cannot touch the wiring even when the door is unlocked and open.

6.4. Fan Concept

Wherever energy is transported, heat is generated. Modern product families like **CE-SAA** and **ELISA III** can be used optimally with little effort by taking special measures to avoid heat.

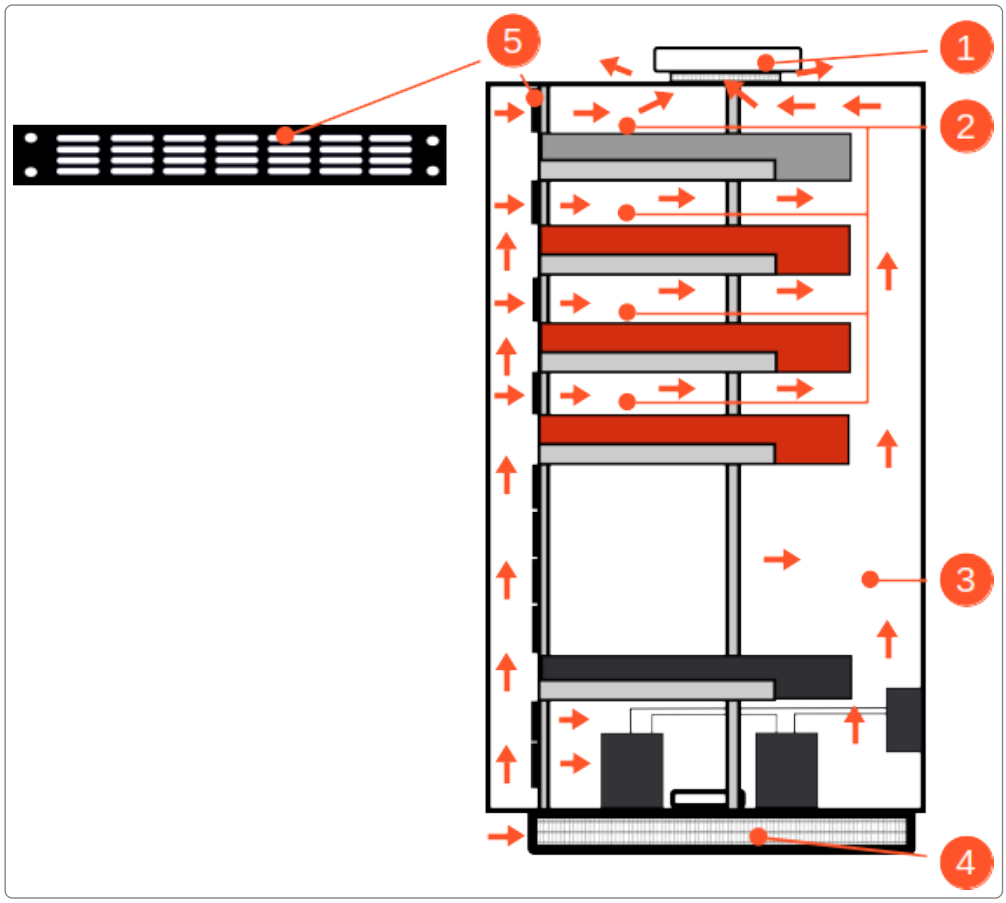


Figure 45. Example cabinet with several CE-VAS4 central units, each 1 U spacing

Pos.	Designation	Pos.	Designation
1	Roof fan	4	Grid with filter insert
2	1 HU space	5	Screen with air slots
3	Air circulation		

The control cabinet in the graphic has several CE-VAS4 central units and a HOST with 1 U spacing each. In between, the screens with air slots are attached.

Expected Heat Development in the Cabinet

1. The typical heat development of a single device of the **CE-VAS4 / ELISA III-IP** Product families is around 25W. If a height unit (HE) is kept free above each device when installing several devices in a switch cabinet, this heat is passively dissipated via the upper housing plate. Fans contained in the device are not activated, even if the ambient temperature is increased.
2. If there is not enough space for these free spaces, the fan switches on from time to time at a slow speed to dissipate the heat input. In a fully equipped large control cabinet with bw. 20 units type **CE-VAS4 / ELISA III-IP** there is a heat input of approx. 500W (approx. 20 * 25W).

   A temperature sensor controlled cabinet ceiling fan is used to dissipate the heat from the cabinet.

   In addition, an attached central supply air filter with replaceable filter mats is installed in the cabinet below. The cabinet stands on a base with integrated grids through which the supply air is fed into the cabinet. During this time, dust is filtered out to prevent contamination of the electronics.

   Depending on the amount of dust, the filters must be checked regularly and replaced if necessary. These filters must be checked at regular maintenance intervals, cleaned or replaced if necessary. In the case of normal exposure to dust and dirt, a once-a-year test can be used as a guide for the maintenance interval.
3. Alternatively or in addition, individual filter attachments (material number: 22-1-308-400-190) can be placed in front of the openings of the **CE-VAS4 / ELISA III-IP** to be assembled. The filter mats included should be replaced if necessary (material number: 22-3-608-3089)

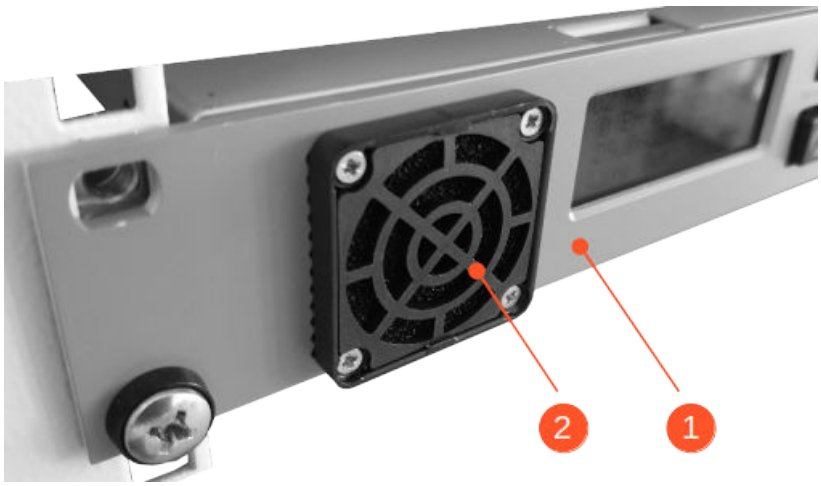


Figure 46. Filter in front of the central unit

Pos.	Designation
1	Central unit
2	Filter attachment with filter mat

4. The maximum heat development to be taken into account arises in a fully equipped, large control cabinet that has to carry out sound reinforcement, e.g. in shopping centers or train station buildings with central sound reinforcement.

   Per unit **CE-VAS4 / ELISA III-IP** even approx. 65W heat input is expected. In total, 20 * 65W = approx. 1300W must be taken into account in this example. The output output (for speech / music) would be approx. 2000W, the theoretical maximum sine output is even approx. 10kW. The maximum sine output must be taken into account when planning the power supply including fuses and cable cross-section.

   In contrast, the lower "pink noise" output is taken into account for heat input and emergency power operation, since the DIN alarm is only played for a short time. Voice announcements convey significantly less power than permanent music recordings.

►Mount the air filter

Requirements

- The front of the device is accessible.

Special tool or material

- Suitable Phillips screwdriver for M2, 5x8 thread-forming countersunk screws
- A CE-E3 filter set (material no .: 22-1-308-400-190)

Action

1. Take the filters out of the packaging.
2. Place the air filter on the fan opening of the device.

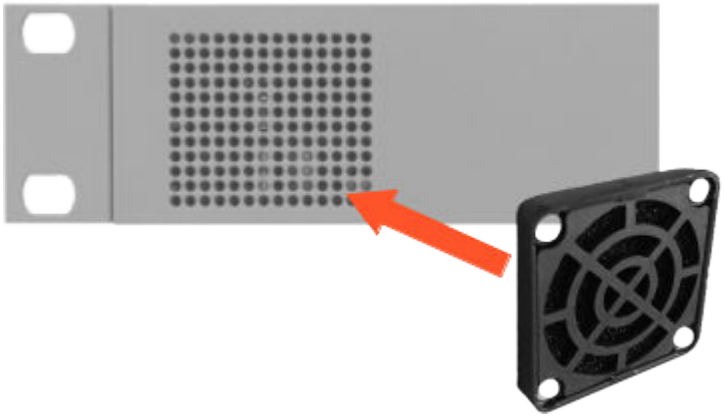


Figure 47. Place the filter in front of the fan opening

3. Screw the air filter with the screws one after the other crosswise onto the ventilation grille.

   Note The screws are self-tapping countersunk screws. While screwing in, they cut a thread in the ventilation hole of the air grille directly below.
4. If the first filter is attached to the ventilation grille, mount the second filter to the other ventilation grille.

Figure 48. Mounted air filter on the fan opening of the device

►The air filters were attached to a device of the CE-VAS4 / ELISA III-IP product families.

Advantages of the Fan Concept

- Due to the narrow 1 HU height, passive heat dissipation via the upper housing plate can be implemented in most applications. The effective overall height can be

planned as "2 U". Fans usually remain switched off, so there is no entry of dirt and no filters that have to be serviced.

- For a large number of units, type **CE-VAS4 / ELISA III-IP** Central ceiling fans and supply air filters in the control cabinet are worthwhile. Internal fans only switch on when required and then at a slower speed.
- In the event of an alarm, the fans are immediately switched on at full speed in order to provide full power for as long as possible even in the event of increased ambient temperature. The requirements of the DIN EN 54-16 standard are exceeded many times over.
- The horizontal, demand-controlled forced ventilation means that there is no dependency on other devices in the cabinet. In contrast to this, passive ventilation using simple heat sinks would no longer work if the rising air continues to be heated and the upper devices experience an ambient temperature that would then be outside the specification. The air flow from front to back avoids this problem very effectively.

6.5. Emergency Power Supply and Batteries

The **WENZEL Elektronic GmbH** The emergency power supply is designed exclusively for installation in a 19 "rack. The appropriate position of the control unit for the emergency power supply, which monitors the batteries, is directly above the batteries. Due to their weight, they must be mounted on the cabinet floor.

Figure 49. Emergency power supply control unit and battery as energy storage

6.5.1. Emergency Power Supply

One or two exits **[Out n]** are connected to the central unit. Two parallel outputs are used when the central unit is configured to require more than 500W output power from the emergency power supply.

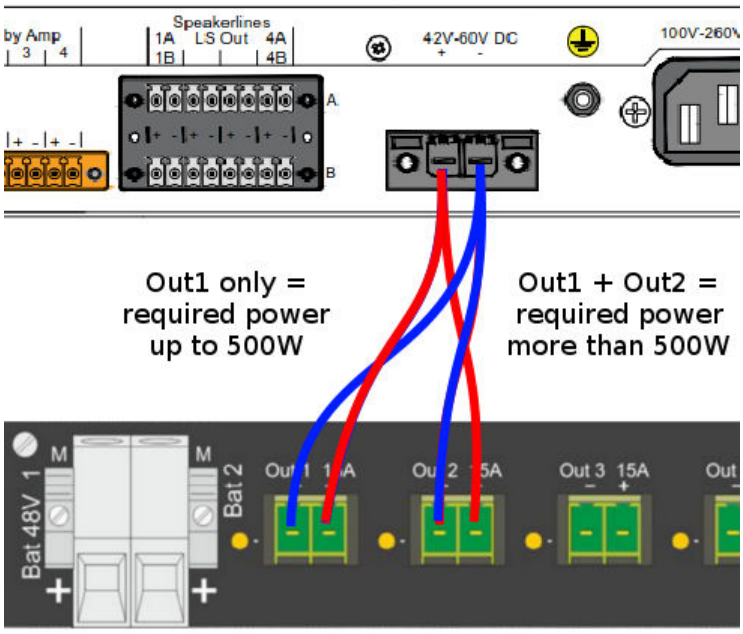


Figure 50. Connection of emergency power supply with central unit

The plug of the temperature sensor is attached to the device. The external temperature sensor must be located near the batteries.

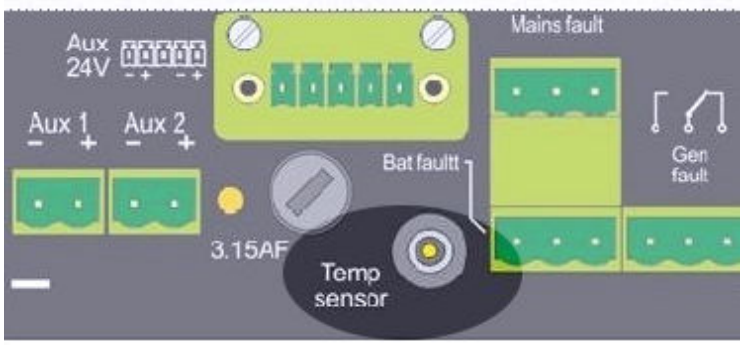


Figure 51. Connection temperature sensor

6.5.2. Batteries

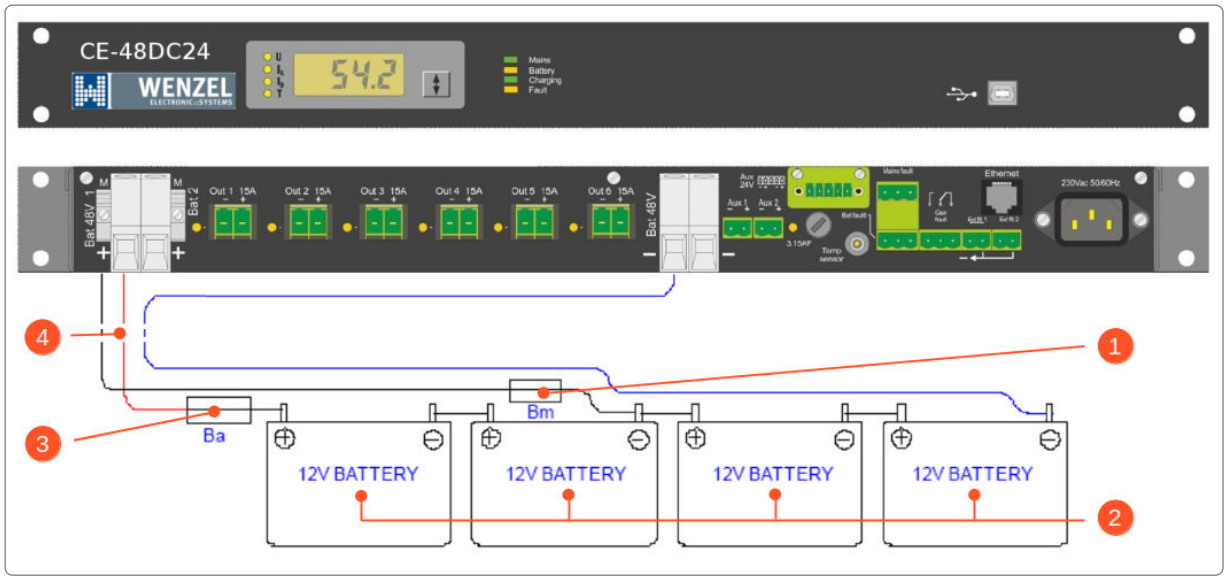


Figure 52. Connection diagram of the batteries (rechargeable batteries)

Pos.	Designation	Pos.	Designation
1	(Bm) Middle contact wire with fuse	3	(Ba) circuit breaker
2	Batteries	4	Cable laying

Connect four 12V batteries (2) in series using the short-circuit-proof cables provided. A middle contact wire with an integrated fuse "Bm" (1) must be used to connect the M reference of the emergency power supply.

Lay the three lines '+', '-' and 'M' directly next to each other (4) to ensure an interference-free battery measurement.

A circuit breaker "Ba" (3) is used according to the connected outputs and the maximum power consumption, as specified in the table below.

Number of connected outputs	1	2	3	4	5	6
Maximum backup[1]	B20T1	B32T1	B50T1	B63T1	B80T1	B100T1

[1]= Product numbers correspond to the DIN EN 60898-1 standards

Table 12. Selection of circuit breaker

A smaller miniature circuit breaker can be used if the configured total power consumption of the connected central unit is significantly lower than 500 W (at each output), as this leads to a lower maximum current at the output terminals.

The loop resistance must also be taken into account. A fuse can only interrupt the flow of current if the loop resistance is low enough to keep the short-circuit current high enough. The loop resistance is measured using the configuration screen of the emergency power supply.

Example: A typical type B miniature circuit breaker separates a short circuit in DC operation in about 100 ms at a current that is 4.5 to 7.5 times higher than the rated current. Using the fuse B100T1 results in a necessary short circuit current of 750 A. This requires a loop resistance of less than 56mOhm (42V / 750A).

6.6. Power Supply at the Cabinet

DANGER

ELECTRIC SHOCK IN THE CONTROL CABINET

When mounting in the control cabinet, there may be live loose cable ends. Even accidental contact may cause serious injury or death.

- If the control cabinet cannot be switched off when replacing a defective device, always switch off the power supply to this device before starting disassembly.
- Ensure that all cabling and wiring work is completed before power is applied.
- All circuit breakers in the circuit breaker unit are switched off.

6.6.1. Power Sockets

IMPORTANT

Fuse outlets or sockets to which the VACIE is connected must be easily accessible and clearly marked.

Connect the $230V_{AC}$ Cable with the power sockets either outside or inside the cabinet, depending on the construction.

6.6.2. Lead-through Terminals

The $230V_{AC}$-The supply of several devices can be guaranteed by using lead-through terminals, e.g. Weidmueller 1770360000. The connection to the power supply must

be a permanent installation with assigned circuit breakers and comply with the EN 62368-1 standard.

7. Commissioning

7.1. Before Commissioning

Check the following points:

- Is the product ELISA III-IP correctly positioned and installed in the control cabinet?
- Are all power connections and emergency power connections properly laid and connected?
- Has the fault signalling contact of the emergency power supply been wired to an input contact?
- Are the central circuit breakers for the direct power supply in the control cabinet still switched off?
- Are all Ethernet cables connected correctly?
- Are the fire alarm control panel, manual call point or player connected correctly?
- Are all speaker wires properly connected?
- Have all emergency exits been linked correctly?
- Has the master module been properly installed in the master device?
- Are the front fan filters properly installed?

IMPORTANT

IMPEDANCE AT SPEAKER LINES

With A/B cabling, care must be taken to ensure that the impedance of speaker lines A and B is as balanced as possible.

Tip

CHECKING THE BACKUP AMPLIFIER

For a check of the correct activation of the average amplifier, individual amplifiers can be deactivated in the **Maintenance** task under **Simulation amplifier error** to force the function takeover.

7.2. Initial Commissioning

After all mounting and wiring checks are complete, the central circuit breakers in the control cabinet are turned on and power is supplied to the unit. The power LED lights up.

Note

POSSIBLE ERROR MESSAGES

Error messages may sometimes occur and the alarm may go off. Pressing the reset key stops the audible alarm.

Before starting the configuration in WeView, it is strongly recommended that you change the password and activate HTTPS access for encrypted communication.

7.2.1. Change Delivery Password

Introduction

The login process is the same for all users set up in the system.

The following applies to the ELISA-III-IP/CE-VAS4 upon delivery:

- User: service

IMPORTANT

DELIVERY STANDARD

All Wenzel devices are factory-set with the same password `s3rv!ce-A8le` and the same user It is therefore important, after consulting with the project managers, to change the password when logging in for the first time. The system is only protected against unauthorized access once the standard password has been changed.

Passwords are used to protect confidential data and prevent unauthorized access to system configurations. Therefore, set up a secure password that is considered secure according to generally accepted criteria.

Preparation

These instructions refer to the Linux operating system. Please check before you establish a connection to the device:

- Under the Windows operating system, we recommend using the PuTTY tool for logging in.
- In order to be able to execute some commands under Linux, it is necessary that an ssh client and an scp client (e.g. OpenSSH or PuTTY) are installed on the PC.

Change Password

IMPORTANT **OPERATING SYSTEM**

The instructions are described under Linux. Execute the comparable commands under Windows.

►Change password

Requirements

- You have established access to the device .

Procedure

1. Open a terminal with **Ctrl** + **Old** + **T**.
2. Log in with the username `service` followed by the password `s3rv!ce-A8le` on the device.

   If you access via an external computer, open the terminal with **Ctrl** + **Old** + **T** and enter: `ssh service<IP-Adresse_Gerät>`. Then enter the password.
3. Press the button **Enter**.
4. Enter the command `passwd` to change the password.
5. Enter the new password twice.
6. Confirm your entry with **Enter**.
7. Close the terminal by entering Exit and then **Enter**.

►The password has been changed

7.2.2. Activation of HTTPS

The central units and hosts support the invocation of the browser-based configuration application **WeView** also via secure HTTPS access. For this it is necessary to initially activate the secure access on the central unit.

Note

The work steps to be carried out in the following are currently only possible via a console using the commands **ssh** and **scp**.

For later **certificate update** the steps to perform HTTPS activation are identical.

IMPORTANT

The instruction refers to the operating systems **Linux** and **macOS**. Under the operating system **Windows** we recommend the tool **WinSCP** for copying the certificate files and the tool **Putty** for the login.

►Perform HTTPS activation

Requirements

- A network connection to the central unit is established.

Procedure

1. Open a console on your machine in the folder with the certificate files.
2. Copy the certificate files with the extensions `.pem` and `.key`.

   ```
   scp <filename>.pem <filename>.key service@<IP-address-central-unit>:
   ```

   Note Enter the password, when prompted.
3. Log in to the central unit as user `service`.

   ```
   ssh service@<IP-address-central-unit>
   ```

   Note Enter the password, when prompted.
4. Activate HTTPS access and certificates.

   ```
   ./activateHTTPS.sh
   ```
5. Restart after successful activation.

   ```
   sudo reboot
   ```

   Note Enter the password, when prompted.

►HTTPS activation carried out

After the access has been activated via a secure transmission protocol, the application **WeView** can be reached via the port **4433**:

`https://<IP-address-central-unit/host>:4433`

Deactivate HTTPS

Shall the access to the browser-based configuration application **WeView** again be based on HTTP, follow the steps below.

►Perform HTTPS deactivation

Requirements

- A network connection to the central unit is established.

Procedure

1. Open a console on your machine.
2. Log in to the central unit as user `service`.

   ```
   ssh service@<IP-address-central-unit>
   ```

   Note Enter the password, when prompted.
3. Deactivate HTTPS access (and certificates).

   ```
   ./deactivateHTTPS.sh
   ```
4. Reboot after successful deactivation.

   ```
   sudo reboot
   ```

   Note Enter the password, when prompted.

►HTTPS deactivation carried out

After the access has been deactivated via a secure transmission protocol, the application **WeView** can be reached via the port **8080**:

`http://<IP-address-central-unit/host>:8080`

7.3. Commissioning

Note

If all tests have been successfully completed, the device can go into continuous operation and is ready for configuration.

8. Configuration Application WeView

8.1. Access to WeView

Access via the LAN interface

For the configuration, a hardware connection must first be established. The configuration software is then called up.

Note

DELIVERY STATUS

When delivered, the product has the following IP address: **192.168.0.181**.

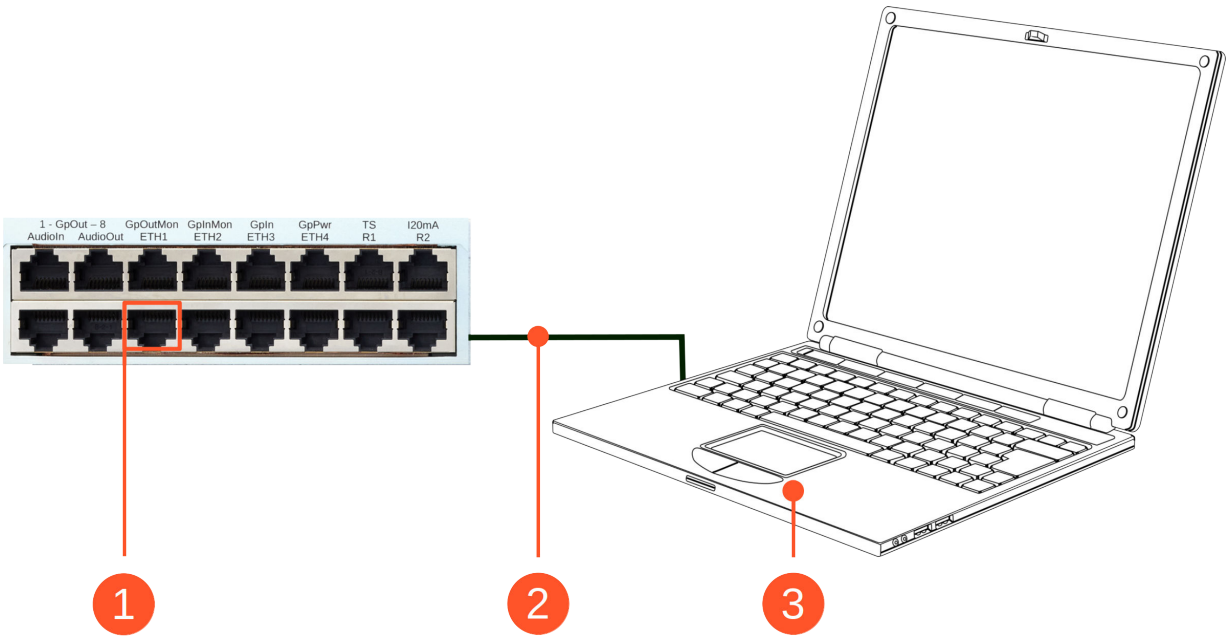


Figure 53. Computer connection to the central unit

Item	Designation
1	**[ETH1]** The LAN connector of the master device has its own IP address and is also used for configuration.
2	CAT 5/6 cable connection
3	Computer

IMPORTANT **PREFERENCES**

Before a connection to the configuration software can be established, it must be ensured that:

- the DHCP server service has stopped.
- the IP address of the same subnet was entered.

Access via USB interface

IMPORTANT **USB2 INTERFACE**

A connection to the **WeView** can also be established on the front panel at the upper USB-port of the device. This port has a fixed IP address that must be entered if a connection is to be established via it.

For unsecured access via HTTP, the fixed URL is:
`192.168.42.1:8080`

If secure access via HTTPS is active, the fixed URL is:
`192.168.42.1:4433`

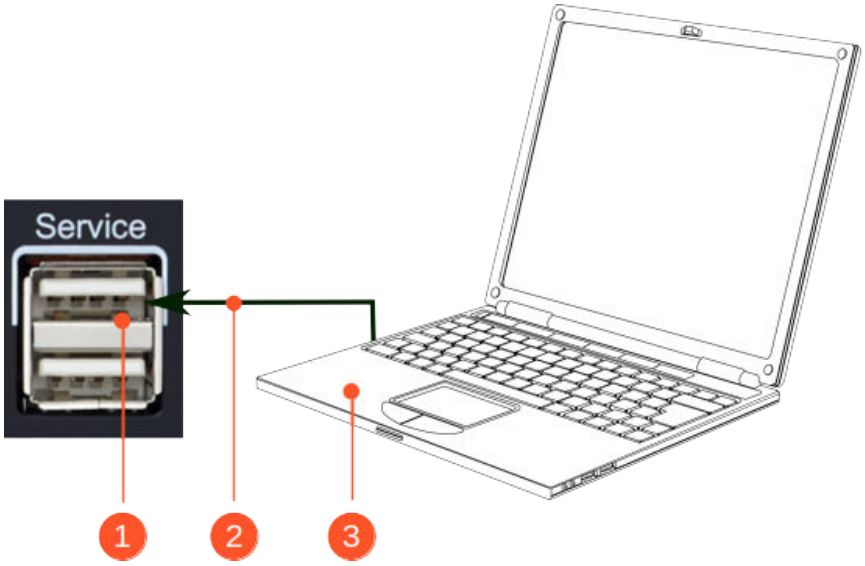


Figure 54. USB Connection

Item	Designation
1	USB interface

Item	Designation
2	USB type A data cable
3	Computer

►Establish a connection to the configuration application

Requirements

- The device is switched on.
- **When connecting via the USB port:** Keeps DHCP enabled.

Special tool or material

- Standard CAT 5/6 cable
- **When connecting via the USB-port:** A USB data cable with type A connector on both sides

Action

1. Connect your computer (3) and the interface (1) of the product with a standard cable (2).

   Important On the product, we recommend using the **[ETH1]** or the USB2 interface can be used to establish the connection.
2. Open the browser on your computer.
3. Enter the following IP address in the address bar, in order to access **WeView**:

   `http://<Geräte IP-Adresse>:8080` unsecured access

   `https://<Geräte IP-Adresse>:4433` secured access

   Note Enter the IP address according to the project documentation. For a device in the delivery state, enter the IP address mentioned above.

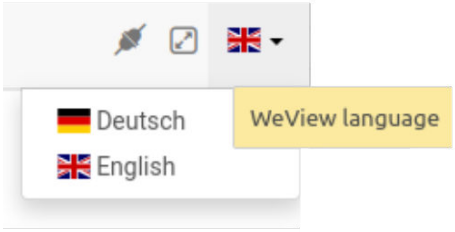
   When using the USB-port: Enter the following URL:

   `192.168.42.1:8080` or if secured access is active: `192.168.42.1:4433`

Figure 55. Login page in the internet browser

Note The login window of the **WeView**-Configuration application opens.

4. Click the Language ▼ scroll window in the upper right corner and set the desired language, if necessary.



5. Enter "**admin**" in the User name field.
6. Enter "**admin**" in the Password field.
7. Click on the blue **Log in** Button.

Note The first page of the configuration application opens.

►Connection to the configuration application has been established

8.2. Introduction WeView

The configuration application is called **WeView** and is implemented with the latest web technologies. **WeView** can build up, configure, control and maintain all ELISA family devices by using a modern web browser on any operating system, or even by using a mobile device. It also provides enhanced backup and restore mechanism as well as version control and configuration roll back features.

The information given in this configuration tool description will enable the user to set up a complete and complex voice alarm system. However, all further details, for instance parameter settings, installation guidance or levelling instructions, are provided in the configuration tool **WeView** itself.

The central unit can either work in master mode or in slave mode. A device in master mode is equipped with the master module on which the configuration files of the entire system are located. Devices in slave mode do not contain any configuration files and also no master module.

An understanding of the following terms is helpful for successful configuration work:

Term	Description
Sources	In addition to the physical connections for analog voice / music inputs (audio inputs), individual terminals connected via the network (e.g. IP call stations, telephones, streams) can also be a source.
Sinks	Project-related identifiers can be assigned for physical connections of the analog voice / music outputs (audio outputs and speaker lines) and parameters associated with the hardware, such as the level values, can be configured directly. A sink of the same name is automatically assigned to such connections, which can be assigned further functional parameters such as attenuation and call number. The connection can also be assigned several sinks with different names, through which the connection can be used under different numbers e.g. with different attenuation.
Multiple sinks	These are sinks to which more than one physical connection or one sink or multiple sink is assigned. This allows a group of physical outputs to be addressed in a hierarchical manner.
Priorities	In the configuration interface, priorities can be set exactly in several places. The value "1" has the highest priority, the value "255" the lowest priority. It is advisable to assign the priorities in the following gradation: • Firefighter call stations (highest priority) • System call stations with alarm announcements • Alarm sequencer (overlaps of phases 2-4 with other functions to be avoided!) **Note** Phase 4 has the highest priority, phase 1 the lowest priority. • Minimum priority for external attenuator control relays • Call stations with announcements in quiescent condition state • Sources for backgroud music

Table 13. Important WeView terms

8.3. Main Screen

The figure below shows the entire layout of the main screen. The appearance changes depending on the type of administration or configuration.

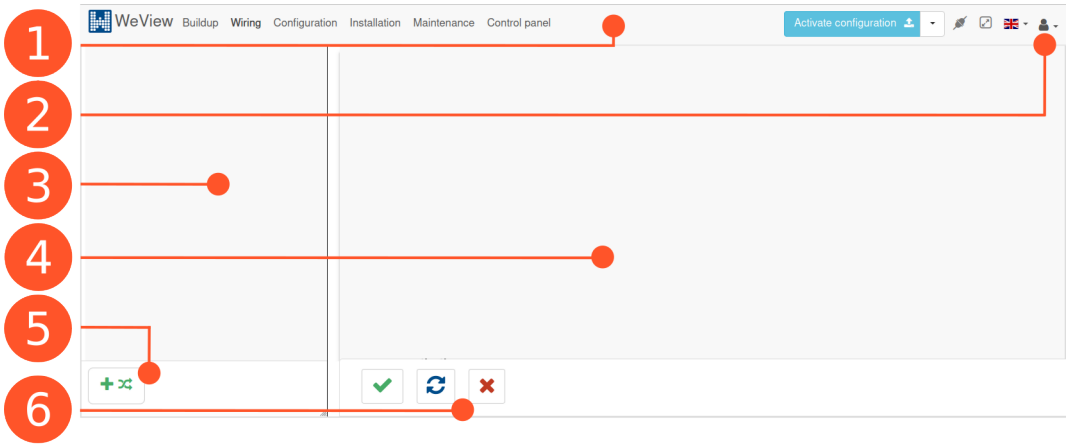


Figure 56. Main screen overview

Item	Description	Item	Description
1	Menu bar	4	Details area
2	Drop-down menu	5	Edit buttons for selection area
3	Navigation and selection area	6	Edit buttons for details area

Horizontal menu bar

A task (or tab) is selected from the menu bar. Only tasks for which the respective user is authorized are displayed. User permission is assigned in the Administration task area.

The WeView is connected to the system. If both plugs are shown apart, the WeView is not connected.

Full screen view on/off

The language setting can be selected via a selection field in the drop-down menu on the right. However, it can also be preset for the respective user when starting the **WeView** in the **Administration** tab.

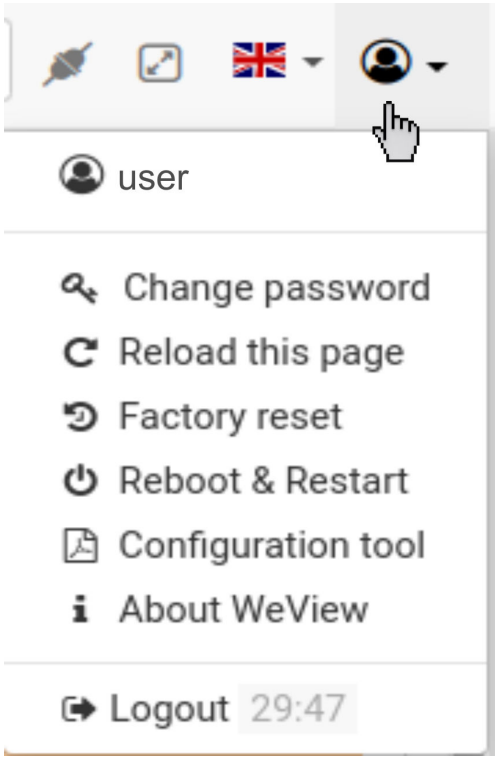


Figure 57. Account drop-down window in WeView

You can log out of the program and return to the login page via the account drop-down window. The password can also be changed here, along with other settings.

The configuration is transferred and activated in the system with the button **Activate configuration** .

Navigation and selection area

The elements are displayed in the navigation and selection area and depend on the task selected in the menu bar.

The navigation and selection area has the edit buttons (modifiers) below. Such is e.g. the button **[+]** to add a new item, e.g.:

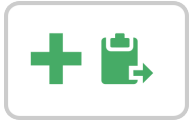


Figure 58. Add source

Note

NEW ELEMENTS

New elements can only be created in the selection area.

The elements are organized hierarchically. The next lower level can be opened and closed by clicking on the buttons and .

Detail section

The element details are displayed in this area. The elements are edited here, ie the actual parameters are entered in a configuration dialog.

By clicking the input field name, a help text with the meaning of the element is switched on and off.

Entry fields marked with * (asterisk) and a red border are mandatory fields and require an entry to enable saving.

If the elements the symbol preceded, it is a summary heading that can be opened and closed by clicking on the symbol. Changes can only be made to opened elements.

On the right edge of the parameter field is next to the (physical) unit the symbol displayed for resetting to the valid default value.

There are three editing buttons (from left to right) in the lower part of the detail area:

- to save changes
- to discard the change entered after last save
- to delete the item

  Note Items can only be deleted in the details pane.

If a symbol is greyed out, function is not active and cannot be executed.

Delete a parameter or a parameter group

If you click in the entry field of the parameter line, the parameter name appears in red and the delete icon is visible above it.

- To delete the parameter line/parameter group .

8.4. Menu bar

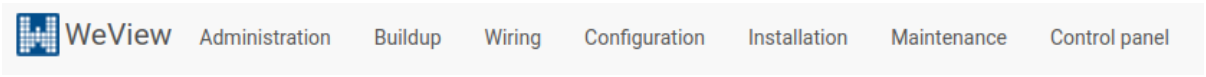


Figure 59. WeView menu bar

The configuration application is divided into seven tasks that allow the user to set up a complete voice alarm system including user management. The tasks are arranged in such a way that they can be run through in sequence from left to right during configuration.

Tasks include:

Note Only the tabs that have been released for the respective user under Administration are displayed.

- **Administration**

  This area includes:
  - the management of user accounts,
  - the access rights of users to certain tabs and
  - management of access levels,
  - setting up RFID keys.
- **Buildup**

  The first steps for configuring a voice alarm system are arranged in this area:
  - the generation of devices and device locations,
  - the determination of the device with master module,

- the assignment of the device identification (UUID).

- **Wiring**

  All connections between the individual system components are defined in this area:
  - General purpose inputs and contacts as well as failover settings,
  - the assignment of audio inputs and outputs and
  - the assignment of the amplifier speaker lines.

- **Configuration**

  All system settings are made in this area
  - for the devices which were set up in the area **Buildup**,
  - for wiring all components which were created in the area **Wiring**,
  - for the pin assignment of individual interfaces, loudspeaker lines and
  - for organizing and assigning audio sources.

- **Installation**

  On-site measurements and level adjustment of the entire system are carried out in this area. This includes:
  - the measurement of the impedances of all speaker lines,
  - the sink leveling in the announcement area,
  - the leveling of external audio sources
  - the adaptation of audio events to the ambient volume.

- **Maintenance**

  In this area, all maintenance information can be retrieved and also updates can be made. This includes:
  - all status displays of the various parameters from the area **Configuration**,
  - all error displays, error lists, date and time updates and system status reports,
  - the firmware update options, creating a backup copy of the configuration and license management.

- **Control panel**

  A dynamic audio matrix can be set up in this area, which allows audio sources present at the central unit to be flexibly assigned to all speaker lines and AF outputs during operation. Furthermore, a backup copy can be created for all settings and assignments for this area.

8.4.1. Administration

This task includes managing user accounts, granting users access rights to tasks and entering RFID keys.

Note

ACCESS AUTHORIZATION

At delivery, central units have the user name and password **admin**, unless project-related adjustments have been made.

The submenus have the following tasks:

- **RFID**: Input of secured functions with the help of RFID keys.

  Note

  RFID KEY

  An entered RFID key applies to all connected system call stations, with the exception of the firefighter call station.

- **Admins**: Entry of users with administration rights.
- **User** : Input from users **with** Change authorization and selection of authorized tasks.
- **User (read only)**: Input from users **without** change authorization and selection of authorized tasks.

8.4.2. Buildup

Under the tab **Buildup** new locations and all devices of the system are set up.

- Setup of devices and device locations
- Defining the devices as master and slave module
- Assignment of the device identification (*UUID*)

  *UUID= identification number that can be used to uniquely assign a specific device.

In **Buildup** the following actions are performed:

- **Add device**
- **Add location**

Created devices and actually existing devices that can be identified by their UUID must be assigned to each other manually or in the event of a repair.

8.4.3. Wiring

IMPORTANT **CONFIGURATION PROCESS**

Only the connections specified here can be used in the subsequent configuration process.

Following system connections are configured here:

- **GP I/O**
- **Audio I/O**
- **Failover**
- **Loudspeaker Lines Amplifier**
- **Ambient Noise**

Note **PREFIX**

- Sources of the same name are created for the audio inputs, with an * (asterisk) as a prefix.
- Sinks of the same name are created for the loudspeaker lines and the audio outputs, with an * (asterisk) as a prefix.

8.4.4. Configuration

Configuration of all settings of in tasks **Buildup** and **Wiring** created system. Non-configured parameters are always preassigned with the effective default.

- **General Settings** basic system settings can be defined.
- In **Network** all network interfaces are compiled as LAN interfaces.
- In **Accounts** all usable SIP numbers are compiled.
- **Sound files** contains and manages the audio files.
- In **Sources** all audio sources are compiled.
- **Calendar files** contains the calendar files for night attenuantion etc. The format is described in the appendix Appendix A, Calendar File Format [160].
- In **Audio outputs** the audio outputs are compiled.
- **Loudspeaker lines** compiles properties of the amplifier loudspeaker lines and matrix loudspeaker lines. The impedance values can be changed using the button; they should be determined by the system in the Installation task.
- **Sinks** compiles all destinations and group destinations that can be selected by telephone numbers etc. The destination can either address as **Loudspeaker Line** a

single physical output directly, or it can with **Multiple** indirectly address one or more destinations as a fixed group destination, or it can address a single audio output with **Audio Output**.

In addition, destinations can also be defined to which no direct device resource is assigned (**Empty Sink**), which can be used to trigger further actions via events.

- **Interlocked Sinks** defines the sinks which may not be active in parallel with different sources, so that acoustic mixing cannot occur.
- In **Actions** the activities to be triggered are configured for event-driven special cases.
- In **Alarms** the alarm sequencers are configured for the voice alarm function.

  The 4 possible alarm phases are listed under Phase, which are used by the alarm sequencers compiled under Sequence. Alarm related settings are made under Settings.
- In **Events** the triggered actions or alarms are configured for event-driven processes, e.g. calls, system/error states or changes of control contact.
- In **General Purpose Inputs** the input contacts are compiled.
- In **General Purpose Inputs Monitored** the monitored input contacts are compiled.
- In **Ambient Noise** the response time for ambient noise sensors is set for ambient noise depending volume control.
- In **Ambient Attenuator** the ambient noise sensors are configured.
- In **Call Stations** are all via **WeNet** connected system call stations are compiled. The call station buttons are identified by their key number (ID) and can be configured either as an alarm button, line button or function button.

8.4.5. Installation

The on-site measurement and leveling of the entire system is made in this task.

IMPORTANT **PERSISTENT STORAGE**

After completion of the activity, the determined settings and values must be transferred into the system by pressing "**Activate configuration**“. Creating a backup file is recommended.

- **Impedance Calibration**: The speaker line impedances are measured automatically here.
- **Sink Leveling**: Here the sinks are leveled using the built-in reference signal generator. For this purpose, the gain is set for the required level in the announcement area.

- **Source Leveling**: External audio sources are automatically leveled here. For this purpose, a standard signal is placed in front of the microphone or the input and a correcting attenuation/amplification for the source is automatically determined by comparison with the internal reference signal.
- **Ambient Noise**: The connected microphones are leveled here to adapt to the ambient volume.

8.4.6. Maintenance

In the task **Maintenance** the following submenus are available:

- **Status Indications** It contains tables with a list of all system-wide data (errors and status) that are read out by the system.
- **Live HOST State** Here various log files are read out, displayed and can be downloaded.
- **Firmware Update** New firmware can be uploaded here.
- **License Management** A new license file can be updated here.
- **Backup & Restore** This can be used to save a WeView configuration. A backup file will be created. There is also a restore option by uploading a configuration file located on the computer.
- **Date & Time Update**: For manual time setting .
- **Service Mode** Mute all buzzers. This can be set during installation work. In addition to a manual reset, it is also reset automatically after a restart.
- **Amplifier Error Simulation** For failover checks relevant for acceptance tests. The simulation of an amplifier error can be switched on here.
- **Audio File Cache** Only Railway. Here audio files of the passenger information system buffered on the master device are deleted to accept newer versions.

8.4.7. Control Panel

Dynamic Audio Matrix Introduction

The dynamic audio matrix allows the flexible and easy-to-use assignment of loudspeaker lines and AF outputs to the sources connected to the central unit during operation. It is not necessary to restart the central unit and therefore does not have a disruptive effect on the operating sequence.

Procedure

1. In the first step the dynamic sinks are created under **Configuration/Sinks**.

2. In the second step, the sources are assigned to the variable sinks under **Configuration/Actions**. The following sources need to be assigned:
   a. AF inputs
   b. Text files (stored on the central unit).

   Note The creation of actions is not required for live PA from IP or call stations.
3. At last, the physical outputs (loudspeaker lines and AF outputs) are assigned to the dynamic sinks.

9. Operation

Note

REFERENCE TO THE KEY ELEMENTS

The device operates largely without operator intervention. If you need to use one of the buttons on the front panel of the ELISA III-IP please refer to the chapter Control Buttons [50].

10. Maintenance and Repair

10.1. Maintenance Schedule

The maintenance intervals are suggestions that were determined on the basis of empirical values. An average was formed in the process. In the case of greater stress, the equipment/the device should be checked more frequently to ensure the greatest possible operational reliability.

10.1.1. Maintenance intervals

Maintenance, to-do list	Time interval respectively:				
	1 year	6 months	monthly	1 week	daily
Cleaning. Clean product with a dry and clean cloth.	X				
Check all plug connections for damage and corrosion.	X				
Replacing the fan mats on the ventilation filters	X				

10.1.2. Maintenance

Note

MAINTENANCE REQUIREMENTS FOR VOICE ALARM CONTROL AND INDICATING EQUIPMENT

The maintenance of the entire voice alarm system and thus the ELISA III-IP as an essential part of the voice alarm control panel must be carried out by a specialist company in accordance with requirements in **DIN VDE 0833- 4**, where applicable, if the central unit is used in a voice alarm control panel.

LED and beeper test

LEDs and signal transmitters for binding information can be tested to verify their function. To do this, press the button **ESC** longer than 3 seconds. The LEDs go through a self-test sequence and illuminate their defined colors and the beeper sounds.

Fuses

The ELISA III-IP does not include replaceable fuses.

Batteries

The ELISA III-IP is not equipped with batteries.

10.2. Service Cases

The following chapters explain the main steps in the event of a service case. Further information to the displays on the central unit can be found in the chapter Displays and Control Elements [45].

10.2.1. General Fault

See Chapter LEDs indicating the operating conditions [47] LED **[Fault]**,

►Check and eliminate an fault warning condition

Requirements

- An fault warning condition is displayed on the LED **Fault**. In systems with a voice alarm function, an acoustic signal is also emitted.

Action

1. The device's LCD display shows the type of fault detected by the central unit. See also the chapter LCD Display (Non-Mandatory Information) [52].
2. Eliminate the fault displayed.

   Note The collective fault indicator **[Fault]** goes out automatically when the fault has been corrected.
3. If the error is still present after several attempts, the defective device should be replaced. See also the chapter Device replacement [122]

►The fault warning condition has ended and the error has been corrected

10.2.2. Error codes

If a fault is detected, the LCD display shows an error code. Please note the following:

- The error codes are displayed locally in a device network on the device concerned. If there is an impedance error, for example, this is displayed on the device whose line has this fault.
- In the event of faults that cannot be assigned to a central unit, e.g. the absence of a system call station, the master device will display the error.
- In the case of malfunctions for which no error code exists, only the general fault indicator is displayed. More detailed information on the fault can be found in the log files under **Maintenance/Live Host State**.

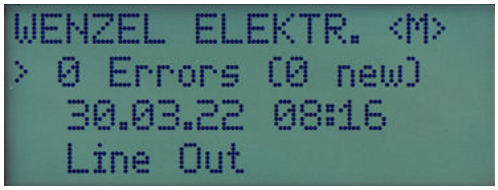


Figure 60. Shows the error list on the display

Display of errors ("Errors", "new") with English language setting. If the setting is German, "Fehler" and "Neu" appear.

The list of error codes shows the additional column **Procedure**. Notes and suggestions for initial troubleshooting can be found here.

Table *Error codes (ID)*:

- **Error ID**: Shows the error ID associated with the detected fault.
- **Error text**: Depending on the exact cause of the error, the error text and, for example, the error location or other details are displayed.

  The contents of the field with angle brackets **<...>** depend on the values entered in the configuration interface.
- **Procedure** The first troubleshooting hints can be found in this column. Further work steps for troubleshooting are usually necessary.

Error ID	Error text	Procedure
100	Line break Line 1A | 1B | …. | 8B	Check cable routes and speakers
101	Short circuit Line 1A | 1B | …. | 8B	
102	Impedance error Line 1A | 1B | …. | 8B	

Error ID	Error text	Procedure
103	Earth fault Line 1A | 1B | …. | 8B	
104	EOL error Line 1A | 1B | …. | 8B	
201	amplifier error Amplifier <number>	Carry out device replacement
202	temperature too high Amplifier <number>	Check ventilation and air conditioning Possibly permanent announcements under full load.
203	voltage error Amplifier <number>	Carry out device replacement
401	Config database MD5 corrupted	Inform Wenzel
411	System WeNet redundancy down | only single | redundant	Check system connections, contact Wenzel if necessary
412	WeNet redundancy down | only single | redundant	
420	<name> offline	Check the connection to the system call station Test the function of the system call station and replace if necessary.
421	<name> Mic fault	Test the function of the system call station and replace if necessary.
423	<name> mic unplugged	Check the microphone of the fire brigade intercom, if necessary just remove it from the holder
424	<name> POE fault	Check the redundant PoE supply of the system call station
425	<name> Fatal error, replace device	XX-ST5A only, device replacement required
430	<name> offline	Display only on master device, slave device (central unit) not available Connection to central unit, check device function
440	DC OK | failure AC OK | failure	Check supply voltages

Error ID	Error text	Procedure
450	cable break inMon <ioNumber>	Quiescent current monitored GP inputs: Check cable routes Check remote station (FDS, manual call point).
451	short circuit inMon <ioNumber>	
460	error | warning <name>	Display of an external error, corresponding action must be created Check external device
470	<name> offline	Check connection to speaker matrix
471	LSx line error <name>	Check cable routes and speakers
480	WAN timeout <url>	WAN ping timeout, check network
481	SES connection fault <SESType> : <name>	Check connection to SES server
482	SIP registration fault <URL SIP Registrar>	Check connection to registrar (VoIP-Server)
490	error ext amplifier <No>	Check external amplifier
<value> = Content according to values from configuration		

Table 14. Error codes (ID)

10.2.3. System Fault

See Chapter LEDs indicating the operating conditions [47] LED **WD**,

► Eliminate a system malfunction

Requirements

- The LED WD (watchdog) lights up

Action

1. Press the button **Clear/Reset** for 3 to 10 seconds.

   Note The system fault display is reset.

2. If necessary, the device must be updated to the latest firmware. See also Firmware Update [126]
3. In case of recurrence, contact manufacturer support.

►System fault ended successfully

10.2.4. Device replacement

WORKING ON THE CONTROL CABINET WHEN REPLACING A DEVICE

Often the power supply in a system must not be completely switched off for safety reasons when a defective device is to be replaced. Power lines run in the wiring area of the control cabinet that can cause serious injury and death if not handled properly.

- The device replacement may only be carried out by trained specialists.
- When working on power lines, the fuse protection switch of the respective device must be switched off beforehand.

►ELISA III-IP exchange

Requirements

- The access to the control cabinet to the cabling area was exposed.

Special tools or material

- Torx TX10 BO screwdriver
- Crosshead screwdriver

Action

1. Switch off the appropriate fuse protection switch on the fuse protection switch unit so that the device is de-energized.

   Note This point does not apply in control cabinets without a fuse protection switch unit.
2. Remove all connection cables from the rear.
3. Use the crosshead screwdriver to loosen the rack screws on the device.
4. Carefully pull the device out of the rack of the control cabinet.

5. Replace the master module. See also the chapter Insert master module [81].
6. Take the replacement device with the master module, insert it into the created gap and fix the device with the rack screws in the control cabinet.
7. Connect all connection cables to the device on the back.
8. Switch the fuse protection switch on again.

   Note When the power is switched on at the new device, the device initializes itself with the configuration data of the master module. After that, the device is ready for operation without any further action.
9. **ONLY APPLIES TO THE CENTRAL UNITS!** For a device without master module, the replacement device (slave) must still be assigned in the WeView. See also the chapterDevice Assignment in WeView [123]

►The replacement device ELISA III-IP was built in and furnished.

10.2.5. Device Assignment in WeView

A replacement device that does not have a master function is assigned in the **WeView**.

►Assignment of a component in the WeView

Requirements

- The new device is fully wired and powered on.
- The device is not a master (only central unit).

Action

1. Call that **WeView** on. See also the chapter Access to WeView [101].
2. Switch from the first page on the menu bar to the tab **System structure**.

Figure 61. Select system structure

Note There you will find the navigation and selection area on the left. This area is divided into two fields. At the top, **Your project** field shows your project environment with all the components in your system. Down in the field **Unassigned devices** the devices that have not yet been assigned are located with their UUID. In green are all components that have been assigned and recognized by the

central processing unit. In blue are devices that have been recognized by the system but have not yet been assigned a UUID. See the Color code table [125].

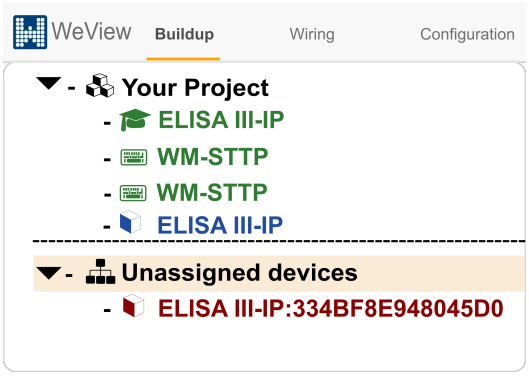


Figure 62. Project environment and unassigned devices

3. Click on the unassigned device (red) and hold it with the mouse.
4. Use the mouse to drag the unassigned device (red) over the already detected but not yet assigned device (blue).

Important If a device is exchanged, the entry appears in yellow.

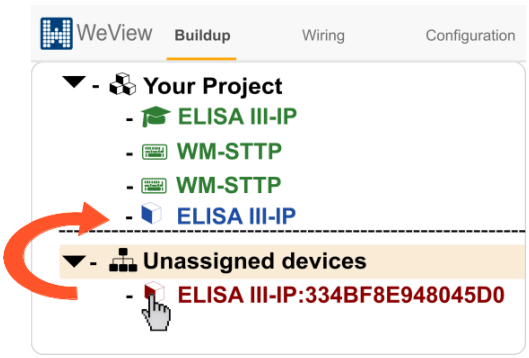


Figure 63. Assigning the new device

Note A UUID has been assigned to the device and appears in green. All settings are adopted.

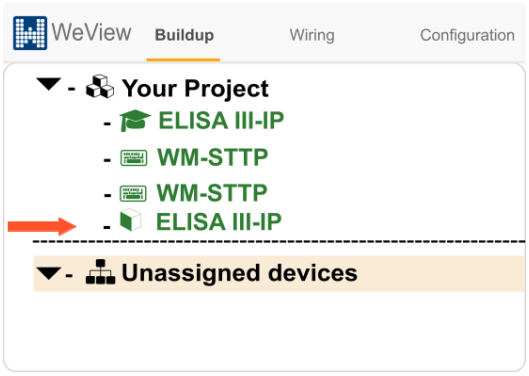


Figure 64. Component assigned

Note The button **Activate configuration** turns turquoise.

5. Click the button **Activate configuration**.

Note The settings are transferred and the central processing unit re-initializes.

The **Activate configuration** button turns white again.

►The device was assigned in the project.

Meaning of the color code

Illustration	Colour	Meaning
WM-STTP	Yellow	Devices with UUID. A UUID has been assigned or entered manually for a created device, but is not recognized by the central unit or is not connected.
ELISA III-IP	Blue	Devices without a UUID. For a created device no UUID is entered, neither assigned nor manually.
WM-ST20	Green	Devices with UUID. The device has a UUID, is connected and has been recognized by the central unit.
ELISA III-IP:33...	Red	Devices not yet assigned with UUID.

Table 15. Color code table

10.2.6. Firmware Update

IMPORTANT **IDENTICAL FIRMWARE IN THE SYSTEM NETWORK**

If the device is updated with new firmware, all devices connected via the **WeNet** also receive this firmware.

If other devices are added or replaced at a later point in time, we recommend reloading the functional firmware that has already been used to ensure that all devices in the system network work with the identical firmware.

►Firmware update of the entire system

Requirements

- For a new installation, if all components of the system are properly wired.
- When expanding components or replacing devices.
- When the latest firmware is available.

Special tools or material

- Current or the already installiert firmware

Action

1. Establish a connection to the WeView with your **<IP address host / central unit>: 8080** .
2. Click on the **Firmware Update** entry on the left.

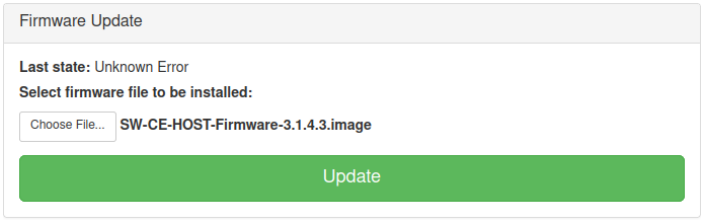


Figure 65. Firmware update window dialog

Note The **Firmware update** dialog opens in the details area.

3. click on **Choose file** .
4. Select the appropriate file.

Note The file name is visible next to the button **Choose file**.

5. Now click on **Update**.

Note The new firmware is uploaded and all devices in the system network are re-initialized.

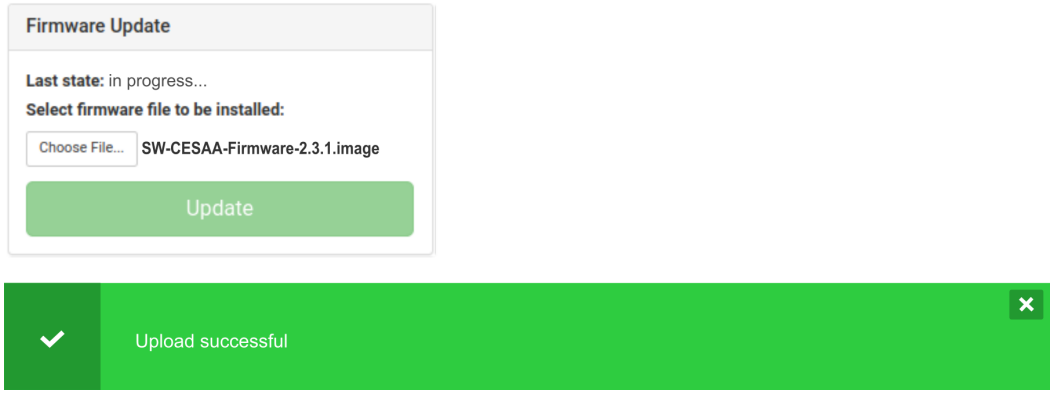


Figure 66. Firmware updated

Note When the updating is complete, a green bar appears with the message **Upload successful**.

►The system update has been carried out

10.2.7. License Update

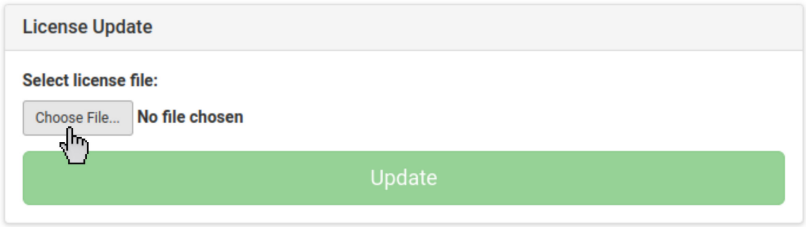
►Perform license update

Requirements

- During a new installation, when all components of the system is properly wired.
- The new license update has been stored on the computer.
- When extending functions for the system.

Action

1. Connect to the **WeView** with their **<IP address host/central unit>:8080** . See also chapter Access to WeView [101]
2. You are on the first page of **WeView** and click on the tab **Maintenance**.
3. In the navigation and selection area, call up the **License Management** .
4. Click on the button **Choose file**.



5. Select the current license file <Nummer>_new_trust.slf.
6. Now click **Update**.

   Note Wait until the green bar has passed through.

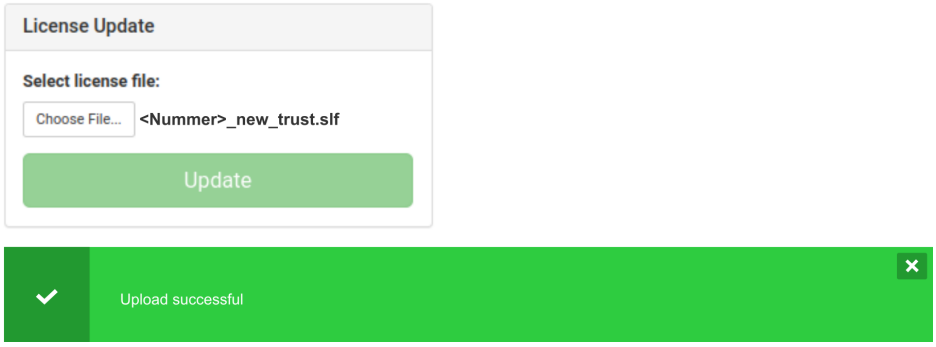


Figure 67. Update dialog License update

7. After the file has been completely uploaded, the software restarts automatically. Duration approx. 15-20 seconds

   Note The new device functions are available.
8. After consultation with the company **WENZEL Electroniks GmbH** download the license confirmation file and send it to the manufacturer.

►The license has been updated

License Confirmation

After the current license file is uploaded, the **License UUID** is displayed in the **License Confirmation** box.

With the blue button **confirmation.scf** the license confirmation file can be downloaded.

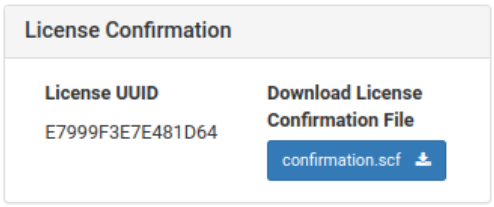


Figure 68. Display dialog license confirmation

10.3. Explanations ELAService.log

The **ELAService.log** file is thoroughly explained in the following chapters. It can be viewed live in **WeView** and downloaded to your PC with ease.

10.3.1. Introduction

The **ELAService.log** file is intended for trained personnel and application technicians. It provides comprehensive information on the application's status, errors, and actions in a readable format.

It provides status and error logs of the complete public address and voice alarm system, including the system call stations. The service log file contains entries for the system status, errors, licenses, control inputs and outputs, GPIOs, SIP, calls, device temperature, buzzer, events and actions, button presses and the internal **WeNet** network.

The following aspects are considered in detail:

- Status and information transparency for trained service technicians.
- Detecting and tracking errors.
- Functional analyzes of the system.
- Establish connections between function and error.
- The service technician analyses and identifies any incorrect configurations.
- In summary, the user can confidently perform additional error analyses.

The following points should be noted:

1. The data in this file is transient, i.e. previous entries are no longer available after restarting a central unit.
2. The file can be loaded locally onto the PC via WeView.
3. The content has been designed to be easy to read for users.

4. All [ERR] entries also appear in the ELAErr.log-File. This file is persistent, i.e. it is not deleted even after a restart, and can be downloaded from the **WeView** to the PC.
5. The description of the contents of the log file **ELAMaster.log** is designed for the manufacturer **WENZEL Elektronik GmbH**.

10.3.2. General Structure

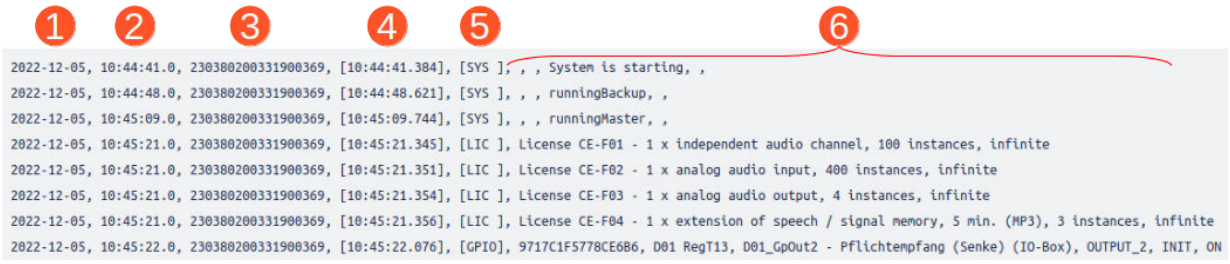
The ServiceLog has the typical Linux syslog file format. Each entry/row consists of some system-generated information followed by application-generated entries. Each entry is comma separated.

The content of a log line is structured as follows:

System generated information			Application generated entries		
1 **Date**	2 **Syslog generated timestamp**	3 **hostname**	4 **Application timestamp**	5 **[TAG]**	6 **1 to n additional information**
Generated by the Syslog Daemon. Format: year-month-day	The timestamp is generated by the Sylog daemon when the event is reported to it.	The hostname is the HW UUID of the device in decimal format.	The timestamp is generated by the application exactly when the event occurs.	Context-related identifier. The text is formatted to 4 characters and enclosed in square brackets.	Depends on [TAG]

Table 16. Description of the content

Example



The application generates the entries in a specific format (referred to above as [TAG]), which is described in the following chapters.

10.3.3. [SYS]

Type 1

Software, firmware and type information

UUID of belongig device	Name of belonging device	Belonging version / variant	Version/ID
UUID (Universally Unique Identifier)	Is defined in WeView	Firmware, U-Boot, DeviceID, VariantID, HW u-Controller, Bootloader u-Controller	Specific text

Table 17. General structure

Example

```
.... [SYS ], 123456747110190, Slave_AreaNorth, Firmware, 2.2.0
.... [SYS ], 123456747110190, Slave_AreaNorth, U-Boot, 1.0.6
.... [SYS ], 123456747110190, Slave_AreaNorth, DeviceID, CE_VAS
.... [SYS ], 123456747110190, Slave_AreaNorth, VariantID, CE_VAS4
.... [SYS ], 123456747110190, Slave_AreaNorth, HW u-Controller, 00000
.... [SYS ], 123456747110190, Slave_AreaNorth, Bootloader u-Controller, 10001
```

Type 2

Device status

UUID of belongig device	Name of belonging device	State
UUID (Universally Unique Identifier)	Is defined in WeView	Online Offline

Table 18. General structure

Example

```
.... [SYS ], 033244008E916A7E, Call-Station-MeetingArea, offline
.... [SYS ], 033244008E916A7E, Call-Station-MeetingArea, online
```

Type 3

Configuration update

UUID of master device	Name of the master device	Empty	CanExpire
UUID (Universally Unique Identifier)	Is defined in WeView		Specific text

Table 19. General structure

Example

```
.... [SYS ], A99ACA7D52E76E58, MainStation, , Rebooting for configuration ↵
update
.... [SYS ], A99ACA7D52E76E58, MainStation, , Restarting for configuration ↵
update
```

Type 4

Firmware update

UUID of master device	Name of the master device	CanExpire	State	Optional info
UUID (Universally Unique Identifier)	Is defined in We-View	Firmware, U-Boot, DeviceID, VariantID, HW u-Controller, Bootloader u-Controller	OK failed	Specific text or blank

Table 20. General structure

Example

```
.... [SYS ], A99ACA7D52E76E58, MainStation, system fwupdate starting, ,
.... [SYS ], A99ACA7D52E76E58, MainStation, system fwupdate finished, OK, ↵
updating all 4 active devices  Successful

.... [SYS ], A99ACA7D52E76E58, MainStation, component fwupdate finished, OK,
.... [SYS ], 123456747110190, Slave_AreaNorth, component fwupdate finished, ↵
OK,
.... [SYS ], 0334B678AD0D0815, CE-STTP_ChiefSecretary, component fwupdate ↵
finished, OK,
.... [SYS ], 033244008E916A7E, Lsx_MeetingArea, component fwupdate finished, ↵
OK,
```

Type 5

System start

Empty	Empty	State
		Free text

Table 21. General structure

Example

```
.... [SYS ], , , System is starting
.... [SYS ], , , runningMaster
```

Type 6

Service mode

UUID of belongig device	Name of belonging device	CanExpire	Belonging amplifier or line number	State
UUID (Universally Unique Identifier)	Is defined in WeView	Depending on the action in **WeView**	Digit	BEGIN END

Table 22. General structure

Example

```
.... [SYS ], 033244008E916A7E, MeetingArea, disable line, 12, BEGIN
.... [SYS ], 033244008E916A7E, MeetingArea, disable line, 12, END

.... [SYS ], 123456747110190, Slave_AreaNorth, simulate error amplifier, 2, ↵
BEGIN
.... [SYS ], 123456747110190, Slave_AreaNorth, simulate error amplifier, 2, END
```

Type 7

License update and query

UUID of master device	Name of the master device	Fixed entry	Status update/query
UUID (Universally Unique Identifier)	Is defined in WeView	License	Successfully verified new license Failed to verify new license - error code Failed to verify license - error code

Table 23. General structure

Example

```
.... [SYS ], 123456789ABCDEF0, MainStation, License, Successfully verified ↵
new license

.... [SYS ], 123456789ABCDEF0, MainStation, License, Failed to verify new ↵
license - error 3011 (INVALID_XML_LICENSE_FILE)
.... [SYS ], 123456789ABCDEF0, MainStation, License, Failed to verify license -
 error 3004 (VERIFY_LICENSE_INVALID_SIGN)
```

10.3.4. [ERR]

The content and the syntax of [ERR] entries are similar the LCD display entries of the central units. The Error text language depends on display language defined in **WeView**.

All [ERR] entries also appear in the `ELAErr.log`-File. This file is persistent, i.e. it is not deleted even after a restart, and can be downloaded from the **WeView** to the PC.

UUID of belongig device	Name of belonging device	Unified error type identifier	Description for error type identifier
UUID (Universally Unique Identifier)	Is defined in WeView	Identical to the display on the central unit in line 1 See Error Type List below	See Error Type List below

Table 24. General structure 1/2

State	Error text 1	Error text 2	Unified error number
BEGIN END	Identical to the display on the central unit In line 2	Identical to the display on the central unit In line 3	Each number appears as a BEGIN/END pair

Table 25. General structure 2/2

```
.... [ERR ], 123456747110190, MallEast, 460, external error via GPI, BEGIN, ↵
ExternalFailureMaster, warning, 32
.... [ERR ], A99ACA7D52E76E58, MainStation, 401, filesystem mismatch (false ↵
MD5), BEGIN, MD5 corrupted, config database, 33
.... [ERR ], 123456747110190, MallEast, 460, external error via GPI, END, ↵
ExternalFailureMaster, warning, 32
.... [ERR ], 79D30AE084166B50, AN1 E3-2 aag1, 481, SES, connection fault, ↵
BEGIN, SES connection fault, SES connection fault, 34

.... [ERR ], 0332799253785E75, D03 RegT13, 440, power error, BEGIN, AC OK, DC ↵
failure, 1
.... [ERR ], 033279925410F5D1, D01 RegT13, 440, power error, BEGIN, AC OK, DC ↵
failure, 2
.... [ERR ], 0332799253785E9A, D09 RegT13, 440, power error, BEGIN, AC OK, DC ↵
failure, 3
.... [ERR ], 033279925B380367, D02 RegT13, 440, power error, BEGIN, AC OK, DC ↵
failure, 4
.... [ERR ], 033279925B380367, D02 RegT13, 450, gpio mon cable break, BEGIN, ↵
inMon1, cable break, 5
```

```
.... [ERR ], 033279925410F5D1, D01 RegT13, 412, local interconnection (WeNet) ↵
redundancy, BEGIN, only single, WeNet redundancy, 6
.... [ERR ], 00000000499602D2, Host, 482, SIP registration fault, BEGIN, ↵
10.26.47.226, SIP registration fault, 7
.... [ERR ], 03327079FD4492C4, D07 RegT13, 430, device is offline (not ↵
available), BEGIN, offline, D07 RegT13, 8
.... [ERR ], 0332707A059CCDCA, D16 RegT13, 430, device is offline (not ↵
available), BEGIN, offline, D16 RegT13, 9
.... [ERR ], 0332707A059CCDDD, D17 RegT13, 430, device is offline (not ↵
available), BEGIN, offline, D17 RegT13, 10
.... [ERR ], 0332707A059CCDE6, D19 RegT13, 430, device is offline (not ↵
available), BEGIN, offline, D19 RegT13, 11
.... [ERR ], 033279925410F5C6, D18 RegT13, 430, device is offline (not ↵
available), BEGIN, offline, D18 RegT13, 12
```

10.3.5. [LIC]

Type 1

Overview of initial status (one-time)

License name	Sizeof available instances	CanExpire
Defined in TLA tool	Digit	expires Infinite FAIL

Table 26. General structure

Example

```
.... [LIC ], License CE-F02 -  1 x Analog Audio Input,400 instances, infinite
.... [LIC ], License CE-F12 - SES/XML, 0 instances, infinite
.... [LIC ], License CE-F13 -  TTS (Text to Speech), NO INSTANCE, FAIL
```

Type 2

Missing license

License name	Problem cause
Defined in TLA tool	"NO INSTANCE, FAIL" "NO MORE INSTANCE, FAIL"

Table 27. General structure

Example

```
.... [LIC ], CE-F25 - 1 x General  Purpose Monitored Input, "NO INSTANCE, FAIL"
.... [LIC ], CE-F24 - 1 x General Purpose  Input instances, "NO MORE ↵
INSTANCE, FAIL"
```

10.3.6. [GPIO]

Control inputs and contacts, every status change creates an entry.

UUID of belongig device	Name of belonging device	Name of belonging GPIO	Technical name of belonging device	From state	To state
UUID (Universally Unique Identifier)	Is defined in WeView	Is defined in WeView	Defined fixed	ON OFF SHORT_CIRCUIT CABLE_BREAK UNKNOWN INIT	ON OFF SHORT_CIRCUIT CABLE_BREAK UNKNOWN INIT

Table 28. General structure

Example

```
.... [GPIO], A99ACA7D52E76E58, MainStation, GpOut1_master, OUTPUT_1, ON, OFF
.... [GPIO], 123456747110190, MallEast, alarmOffButton, BUTTON_201, OFF, ON
```

10.3.7. [SIP]

SIP “Session Initiation Protocol”

SIP event	Registrar	Account number	Expiration	Error code
Registered Unregistered	IP address			0: OK other: not OK

Table 29. General structure

Example

```
.... [SIP ], registered, 10.26.47.226, 1015, 150, 0
```

10.3.8. [TRIS]

Special Protocoll for Bane Danmark: TrafikInformationsSystem

Command-ID	Description	URL	additional Information
Comes from Server and serves as identifier.	Sending request to postProcessUrl Failed request to postProcessUrl		Only optional for special error conditions

Table 30. General Structure, Variant 1

Command-ID	Description	additional Information
Comes from Server and serves as identifier.	Announcement request accepted Announcement request denied Incoming XMLPresent: what Error handling XMLPresent: what	Only optional for special error conditions

Table 31. General Structure, Variant 2

Example

```
.... [TriS], test_gr3_1, Incoming, XMLPresent
.... [TriS], test_gr3_1, Announcement, request accepted
.... [TriS], test_gr4_1, Incoming XMLPresent
.... [TriS], test_gr4_1, Announcement request accepted
.... [TriS], test_gr4_1, Incoming XMLPresent
.... [TriS], test_gr4_1, Error handling XMLPresent,    Already handling ↵
commandId
.... [TriS], gr1_postProcUrl_unresolved, Incoming XMLPresent
.... [TriS], gr1_postProcUrl_unresolved, Announcement request accepted
.... [TriS], gr1_postProcUrl_unresolved, Sending request to postProcessUrl, ↵
http://dummy.de
.... [TriS], gr1_postProcUrl_unresolved, Failed request to postProcessUrl, ↵
http://dummy.d, : ::getaddrinfo(host.c_str(), port.c_str(), &hints, &addrs): ↵
Connection refused (src/client/client.cc:373)
.... [TriS], gr1_postProcessUrl_200, Incoming XMLPresent
.... [TriS], gr1_postProcessUrl_200, Announcement request accepted
.... [TriS], gr1_postProcessUrl_200,Sending request to postProcessUrl, http://
localhost:8080
```

10.3.9. [CALL]

Type 1

Call and audio connection.

UUID of belongig device	Name of belonging device	Call ID	Connection state
UUID (Universally Unique Identifier)	Is defined in WeView	Unique call identifier	SETUP CONNECTED CONNECT_REJ DISCONNECT_REJ ABORT ACCEPT REJECT RECEIPT DISCONNECTED

Table 32. General structure 1/2

Priority (only in SETUP) Release Cause (only in REJECT) Ack: (only in RECEIPT)	Audio Source (only in SETUP)	Audio destination (only in SETUP)
Acknowledgement: positive or negative	Is defined in WeView	Is defined in WeView

Table 33. General structure 2/2

Example

```
.... [CALL], A99ACA7D52E76E58, MainStation, 2, SETUP, 9, file://
Westerland_48000.mp3, * E3out1
.... [CALL], A99ACA7D52E76E58, MainStation, 3, ACCEPT
.... [CALL], A99ACA7D52E76E58, MainStation, 3, CONNECTED
.... [CALL], A99ACA7D52E76E58, MainStation, 3, RECEIPT, positive
.... [CALL], A99ACA7D52E76E58, MainStation, 3, DISCONNECTED
```

Type 2

QoS, Quality of Service

UUID of belongig device	Name of belonging device	Call ID	Gap / missmatch
UUID (Universally Unique Identifier)	Is defined in WeView	Unique call identifier	SIP packet loss > 5% SIP latency > 2 seconds

Table 34. General structure

Example

```
.... [CALL], A99ACA7D52E76E58, MainStation, 3, rx_lost > 5%
.... [CALL], A99ACA7D52E76E58, MainStation, 3, delay > 2 sec
```

10.3.10. [RFID]

RFID, Radio Frequency Identification

UUID of belongig device	Name of belonging device	Name of RFID	State
UUID (Universally Unique Identifier)	Is defined in WeView	Is defined in WeView "unknown" if RFID is not registered	BEGIN END As a pair

Table 35. General structure

Example

```
.... [RFID], A99ACA7D52E76E58, MainStation, AlarmRFID, BEGIN
.... [RFID], A99ACA7D52E76E58, MainStation, AlarmRFID, END

.... [RFID], 123456747110190, MallEast, unknown, BEGIN
.... [RFID], 123456747110190, MallEast, unknown, END
```

10.3.11. [TMP]

Temperature

UUID of belongig device	Name of belonging device	Device temperature
UUID (Universally Unique Identifier)	Is defined in WeView	In degrees Celsius

Table 36. General structure

Example

```
.... [TMP ], A99ACA7D52E76E58, MainStation, 36.5
```

10.3.12. [BEEP]

Beeper (devices and call stations)

UUID of belongig device	Name of belonging device	State/Event
UUID (Universally Unique Identifier)	Is defined in WeView	ON OFF QUIT (Service Mode)

Table 37. General structure

Example

```
.... [BEEP], A99ACA7D52E76E58, MainStation, ON
```

10.3.13. [EVT]

Event, to trigger an action

Name of event	Event type	Name of action to be executed	State
Is defined in WeView	gpIn, gpInMon, acousticOn, systemError and more	Is defined in WeView	BEGIN END As a pair

Table 38. General structure

Example

```
.... [EVT ], EventExternalFailureMaster, gpInMon, ExternalFailureMaster, BEGIN
.... [EVT ], EventExternalFailureMaster, gpInMon, ExternalFailureMaster, END
```

10.3.14. [ACT]

Action, triggered by an event

Name of action	State
Defined in WeView or fixed for permanent actions	BEGIN END as a pair or PULSE

Table 39. General structure

Example

```
.... [ACT ], BeeperOffAction, BEGIN
.... [ACT ], BeeperOffAction, END
```

```
.... [ACT ], ActionGpOut1_master, BEGIN
.... [ACT ], ActionGpOut1_master, END
.... [ACT ], SAAEvacOffAction, PULSE
```

10.3.15. [KEY]

Buttons on call stations

UUID of belongig device	Name of belonging device	Name of belonging button	Number of belonging button	State of belonging button
UUID (Universally Unique Identifier)	Is defined in WeView	Is defined in WeView	Digit	PRESSED RELEASED not configured

Table 40. General structure

Example

```
.... [KEY ], 0334B678AD0DC248, CE-ST20_Information, Announcement_Platform_B, ↵
11, PRESSED
.... [KEY ], 0334B678AD0DC248, CE-ST20_Information, , 17, not configured
.... [KEY ], 0334B678AD0D0815, CE-STTP_ChiefSecretary, PTT, 200, RELEASED
```

10.3.16. [CAL]

Calendar entry is used

Name of belonging Sink	New gain value
Is defined in WeView	in dB

Table 41. General structure

Example

```
.... [CAL ], CentralStation_Platform_B_C, -16
```

10.3.17. [NET]

Network, status about redundant WeNet connection

UUID of belongig device	Name of belonging device	Size of independent (WeNet/RSTP)Connections to Master	Size of currently used hoopsto root bridge	Size of maximal hoops to root bridge
UUID (Universally Unique Identifier)	Is defined in WeView	Digit	Digit	Digit

Table 42. General structure

Example

```
.... [NET ], A99ACA7D52E76E58, MainStation, 2, 1, 2
.... [NET ], 123456747110190, MallEast, 1, 2, 3
.... [NET ], 0334B678AD0D0815, CE-STTP_ChiefSecretary, 2, 1, 2
```

10.3.18. [NETD]

Network Debugging, special debug info WeNet connections. Should help to further investigate some strange short-term interruptions in the network, which occur especially when using Ethernet extenders.

UUID of belongig device	Name of belonging device	Concerning etnernet port	Free text, comes from rstp stack of concerning device
UUID (Universally Unique Identifier)	Is defined in WeView	eth1 to eth4	Example: wudld: 2 litle spike(s)

Table 43. General structure

Example

```
.... [NETD], 0332707A059CCDCA, "D02 RegT", eth3, wudld: good -> bad after 6 ↵
dropouts
.... [NETD], 0332707A059CCDCA, "D02 RegT", eth3, wudld: bad -> good after 33 ↵
dropouts
.... [NETD], 01CF0FBB0411A6A3, "Uwe", eth3, wudld: reset_phy_port after 60 ↵
dropouts
.... [NETD], 03325531157D2DF6, "slave5", eth4, wudld: 2 little spike(s)
.... [NETD], 01CF0FBB0411A6A3, "Uwe", eth3, wudld: 2 little spike(s)
.... [NETD], 03325531157D2DF6, "slave5", eth4, wudld: 2 little spike(s)
```

10.3.19. [NFS]

Network file system

NFS Mount URL Name	Mount Status
URL	mounted unmounted

Table 44. General structure

Example

```
.... [NFS ], 10.26.47.226:/usr/local/wenzel/announcements, mounted
```

10.3.20. [SES]

Standard terminal device interface

Unique SES name	SESType: Type of SES connection	Connection state
Is defined in WeView	**RW** (Traveler warning according to ALL-IP) **R.I** (Traveler information according to ALL-IP) **L** (Legacy - rail traveler information)	UP DOWN

Table 45. General structure

Example

```
.... [SES ], SES-RW, RW, UP
```

10.3.21. SESParser [SESR]

SESParser App: SES Reply to FIA

Unique name of the SES source or FIA server	SESType: Type of SES connection	Magic	Expiration ID	Reply response type	Additional1	Additional2
Is defined in WeView	**RW** (Traveler warning according to ALL-IP) **R.I** (Traveler information according to ALL-IP) **L** (Legacy - rail traveler information) **TRIS** (Bane Denmark)	Identifier of the incoming telegram	Identifier of the process, reference to incoming	Start Stop Fehler E_FILE_MISS Other error types	Additional information 1 for error response	Additional information 2 for error response

Table 46. General structure

Example

```
Fehlerfall:
.... SESParser [SESR], SipSource123, L,    elaprc_rules5, 52106_gr5, ↵
E_FILE_MISS, WAV, zur_verbesserung_der_sauberkeit

Gutfall:
.... SESParser [SES], SipSource124, L, Z_45581/37_40_gr5, ↵
2106_gr5, 5, 6666, 00:00:00, 00:00:20, 0
.... SESParser [SESR], SipSource124, L, Z_45581/37_40_gr5, 2106_gr5, ↵
start
.... SESParser [SESR], SipSource124, L, Z_45581/37_40_gr5, ↵
2106_gr5,stop
.... SESParser [SESR], SipSource124, L, Z_45581/37_40_gr5,2106_gr5, erfolg
```

10.3.22. SESParser [SESI]

SESParser App: SES-XML telegram from FIA

Unique name of the SES source or FIA server	SESType: Type of SES connection	Magic	Expiration ID
Is defined in We-View	**RW** (Traveler warning according to ALL-IP) **R.I** (Traveler information according to ALL-IP) **L** (Legacy - rail traveler information) **TRIS** (Bane Denmark)	Identifier of the incoming telegram	Identifier of the process, reference to incoming

Table 47. General structure (1/2)

prio	target	start	stop	Interval
SES priority of the sound system	SES ID of the sink	Relative start time for the output hh:mm:ss	Relative stop time for output hh:mm:ss	Time for cyclical repetition of the announcement in seconds

Table 48. General structure (2/2)

Example

```
.... SESParser [SESI], SipSource123, L, Z_45581/37_40_gr5, ↵
52106_gr5, 5, 6666, 00:00:00, 00:00:20, 0
```

10.3.23. SES Parser [SES]

SESParser App: Connection status

Unique name of the SES source or FIA server	SESType: Type of SES connection	event, what happened	IP address
Is defined in We-View	**RW** (Traveler warning according to ALL-IP) **R.I** (Traveler information according to ALL-IP) **L** (Legacy - rail traveler information) **TRIS** (Bane Denmark)	declined timeout connected closed …..	IP address of the connected FIA client

Table 49. General structure

Example

```
.... SESParser [SES], SipSource123, L, declined, 192.168.0.209
.... SESParser [SES], SipSource123, L, timeout
.... SESParser [SES], SipSource124, L, connected, 192.168.0.209
.... SESParser [SES], SipSource124, L, closed
```

10.3.24. [DyAM]

Dynamic audio matrix

All sink names come from WeView

Time stamp	Closed sequence	Array of elementary curSinks set	Array of elementary *newSinks* set
Initial once at system start: *InitialJob* Then with every WeView triggered Dynamic Audio-Matrix event: current Job_date-time	BEGIN One row for every Variable Sink that changes their sink set READY	*curSinks: s1,s2,s3, ...*	*newSinks: s1,s2,s3, ...*

Table 50. General structure

Example

```
.... [DyAM ], InitialJob, BEGIN
.... [DyAM ], InitialJob, OSZE2, curSinks:    , newSinks: '* out4'
.... [DyAM ], InitialJob, READY
.... [DyAM ], JOB_2021-05-30-17.35.19, BEGIN
.... [DyAM ], JOB_2021-05-30-17.35.19, OSZE2, curSinks: '* out1'  '* out2', ↵
newSinks: '* out4'
.... [DyAM ], JOB_2021-05-30-17.35.19, OSZE1, curSinks: '* out5', newSinks: ↵
'* out3'  '* out6'
.... [DyAM ], JOB_2021-05-30-17.35.19, READY
.... [DyAM], JOB_2022-12-05-12.55.48, BEGIN
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 01, curSinks:, newSinks: '* ↵
D01_3A/B - W 03 (150W)' '* D01_4A/B - W 04 (150W)' '* D01_2A - Wiring (02 A)' ↵
'* D01_2B - Wiring (02 B)' '* D01_1A/B - W 01 (150W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 02, curSinks:, newSinks: '* ↵
D02_3A/B - W 07 (150W) EOLM(1+2)' '* D02_4A/B - W 08 (150W)' '* D02_2A/B -
 W 06 (150W) EOL2 1'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 03 BGM, curSinks:, newSinks: '* ↵
D03_1+2A/B - W 09 (300W)' '* D04_1A/B - W 11 (150W)' '* D04_2A/B - W 12 (150W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 04, curSinks:, newSinks: '* ↵
D16_2+3+4A/B - W 20 (450W)' '* D17_1+2A/B - W 21 (300W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 05, curSinks:, newSinks: '* ↵
D03_3+4A/B - W 10 (300W)' '* D07_3+4A/B - W 17  (300W) EOLM(3+4)' '* D17_3+4A/
```

```
B - W 22 (300W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 06, curSinks:, newSinks: '* ↵
D18_1+2+3+4A/B - W 23 (600W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 17, curSinks:, newSinks: '* ↵
D08_1+2+3+4A/B - W 18 (600W)'
.... [DyAM], JOB_2022-12-05-12.55.48, V-Sink 18, curSinks:, newSinks: '* ↵
D16_1A/B - W 19 (150W)'
.... [DyAM], JOB_2022-12-05-12.55.48, READY
```

10.4. Commissioning after Maintenance or repair work

See the Commissioning chapter.

11. Decommissioning and Disposal

11.1. Temporary Decommissioning

To decommission the product/system should be switched off and secured against unintentional restart.

The product/system has to be marked with a notice that clearly states that the product/system has been temporarily decommissioned.

Note

RECOMMISSIONING

When recommissioning, follow the instructions in the "Commissioning" chapter.

11.2. Final Decommissioning

For final decommissioning, the product/system is to be switched off and secured against unintentional restart.

The product/system has to be marked with a notice that clearly states that the system/product has been permanently decommissioned.

11.3. Disassembly

All operating materials have to be dismantled properly, in accordance with the locally applicable regulations and EU regulations. Pay particular attention to the environmentally friendly disassembly of the operating materials.

When separating individual materials and, if necessary, when recycling, the national or regional environmental protection laws are to be observed.

11.4. Disposal

NOTICE

ENVIRONMENTAL DAMAGE FROM ELECTRONIC COMPONENTS

Incorrect disposal of electronic components, some of which are also defined as hazardous materials, can cause environmental damage and be prosecuted.

- Pay attention to the environmentally friendly disposal of hazardous substances.
- The regional legal regulations for proper waste recycling and disposal are to be complied.

At the end of the device's service life, the product/system has to be disposed of in compliance with the applicable regional legislation.

The product/system consists of:

- Steel and aluminum (housing, connector, cooler)
- Copper (electrical cables)
- Plastic (housing, electrical cables, cable clamps)
- Electronic components (boards)

In consultation with **WENZEL Elektronik GmbH**, the product/equipment purchased from **WENZEL** can be returned at the end of its life cycle. This means that when you purchase a new item, you can return the used item to us free of charge for recycling or disposal.

Please note: The returned device has to be securely packaged before being sent back.

Toxic and dangerous substances

The disposal of operating materials considered to be toxic and hazardous, some of which may be used in electronic circuit boards, has to be carried out in accordance with national and regional legislation. Specialized disposal companies that are professionally trained and have all permits for the disposal of toxic substances should be commissioned with the proper disposal.

To the best of our knowledge, none of our products contain the substances specified in Directive 2011/65/EU, banning certain substances. This does not apply to batteries, rechargeable batteries and uninterruptible power supplies.

IMPORTANT

SECTION 10 PARAGRAPH 1 OF THE ELECTRICAL AND ELECTRONIC EQUIPMENT ACT AND SECTION 11 PARAGRAPH 2 OF THE BATTERY ACT

According to § 10 para. 1 sentence 2 of the German Electrical and Electronic Equipment Act and § 11 para. 2 of the German Battery Act, the customer as the owner of the product/system is required to remove the battery(ies) contained or installed in the product/system, if present, from the product before disposing of the actual product/system and to dispose of them separately at designated collection points.

Batteries, rechargeable batteries and UPS's can also be returned to **WENZEL** at the end of their service life.

Correct disposal of this product (electronic waste)

To be used in the countries of the European Union and other European countries with a separate collection system.

Note

WHEN DISPOSED OF BY THE CUSTOMER

If you would like to dispose of old devices yourself, please note:

The labeling on the individual product or in the associated literature indicates that, according to the European Regulation of 2005 (2002/95 / EC and 2002/96 / EC), the product may not be disposed of with normal household waste after its service life. This product should be separated from other waste in order not to harm the environment or human health through uncontrolled waste disposal. Furthermore, waste of raw materials should be limited. This product is not permitted to be disposed of with other commercial waste. Customers are therefore advised to dispose of any old product at a designated collection point for electrical and electronic equipment.

12. Scope of Delivery

The scope of delivery includes the following parts:

Quantity	Description	Order number
1	Central unit ELISA III-IP	22-1-308-100-001
1	IEC connection cable 230V_{AC}, 2 meters	22-3-280-2616
1	2-pin connector (Weidmüller) with locking, 48 V_{DC}	22-3-211-0036
2	8-pin connector (Weidmüller) for speaker outputs **[LS out]**, black	22-3-211-0035
1	8-pin connector (Weidmüller) for back-up outputs **[Standby Amp]**, orange	22-3-211-0034
1	Cover for master module slot	22-3-380-1109
1	Short instruction	

Reqiured accessories:

Modell	Description	Order number
E3-FPM	Master module	22-1-308-303-005

Note

- One master module per system is required.
- If a High Availability System is configured, a second master module is required.

13. Technical Data

13.1. Amplifiers and Interfaces

Information in square brackets **[...]** show the imprint on the housing.

Amplifiers		
	Quantity	4
	Loudspeaker outputs **[LS Out]**	8 (4x with A/B-wiring)
	Operating class	Class-D
	Type	100V, galvanically isolated
	Output voltage (max.)	$100V_{eff}$ (sine) or 141V (peak)
	Output power	4x 150W[1] • EN60268-3:2013 distortion-limited output power • DIN EN 54-16 output power requirement • FTC 63FR37233 title 16, CFR, paragraph 1, part 432, rated power • EIA SE-101-A-1949 [1)] 4x 200W according to standard EIA SE-101-A-1949
	Configuration of output power	4x 150W[2] 2x 300W[2] 1x 300W, 2x 150W[2] 1x 450W, 1x 150W[2] 1x 600W[2] [2)] 200/400/800W according to standard EIA SE-101-A-1949
	Frequency range	20Hz to 20kHz (-3dB)
	Damping factor	> 50
	Signal noise ratio SNR	> 96 dB (S-AES17)
	Crosstalk	> 80dB
	Distortion THD+N	<0.5% @1kHz
	Surveillance	Impedance-, power- and earth fault-measurement

	Standby amplifiers **[Standby Amp]**	4 interconnections
4x Audio inputs **[AudioIn]**		
	Input level	-9dBu (0.27V_{eff}) nominal, +6dBu (1.55V_s) maximum, symmetrical
	Input impedance Z_{in}	> 10kOhm
	Frequency range	20Hz to 20kHz
	Signal noise ratio SNR	> 90dB (A-rated)
	Distortion THD+N	<0.1%
4x Audio outputs **[AudioOut]**		
	Output level	-9dBu (0.27V_{eff}) nominal, +6dBu (1.55V_s) maximum, symmetrical
	Output impedance Z_{out}	< 100Ohm
	Frequency range	20Hz to 20kHz (-3dB)
	Signal noise ratio SNR	> 96dB (A-rated)
	Distortion THD+N	<0.1%
2x USB ports at front panel		
	Host	1x
	Device	1x
4x Ethernet **[ETH1] [ETH2] [ETH3] [ETH4]**		
	Data rate	10/100 BaseT
	PoE	30W max. in total
General Purpose (GP) Ports		
	4x control inputs **[GPIn]** 4x control inputs **[GpIn-Mon]**	configurable as GpIn or GpInMon configurable as GpIn or GpInMon or GpInMonPwr
	GPIn	Up to 8x GpIn, max. 60V, >9V = active (I = 1mA, internally limited) , galvanically isolated
	GpInMon	Up to 8x GpInMon, monitored by an external device (DIN VDE 0833-4), 0-30V (max. 60V), <9V = deactive, >10V = active, Rin = 1kOhm (7V - 30V), I < 1mA (35V - 60V) , galvanically isolated

	GpInMonPwr	Up to 4x GpInMonPwr, supporting direct connection of manual call points (DIN VDE 0833-4): internally powered with 12V , galvanically isolated in ground **Short circuit:** I > 8.2mA (R < 400 Ohm) **Active:** 3.7mA < I < 8.2mA (400 Ohm < R < 2000 Ohm) **Deactive:** 2.2mA < I < 3.7mA (2000 Ohm < R < 4000 Ohm) **Line break:** I < 2.2mA (R > 4000 Ohm)
	4x control outputs **[GpOut]**	Output contacts, 60V, < 0.1A, galvanically isolated
	4x control outputs **[GpOutMon]**	Quiescent current monitored outputs (DIN VDE 0833-4), 2x NO (normally open) and 2x NC (normally closed), galvanically isolated
	2x Control power **[GpPwr]**	Power supply for GpIn functionality12V, up to < 50mA
4x current loop 4-20mA **[I20mA]**		Two-wire long-distance measurement inputs

13.2. Essential Software Functions

Note

SOFTWARE LICENSES

The provision of certain functions may depend on the selected function packages.

Supported audio codecs for speech	G.711 PCMU/PCMA 8kHz G.722 16kHz broadband PCM Linear 16Bit, mono, 8kHz, 16kHz, 44.1kHz
Supported audio codecs for files (sounds and announcements)	PCM Linear 16Bit, mono, 48kHz (WAV) MPEG Audio Layer III (MP3)
VoIP protocols (LAN)	SIP, RTP, RTCP
Other announcement functions	SES-XML interface, traffic light status

DSP Functions

EQ, digital biquad filter Frequency bands	5-band graphic equalizer 59Hz, 205Hz, 790Hz, 2950Hz, 12000Hz Attenuation value between: -12dB to +12bB
Adjustable delay	0ms - 4000ms
Volume adjustment	Input and output between: -100dB to +20dB
Pitch shifter Pitch speed **Note** System call stations only	Switchable, 1Hz-150Hz (default value 50Hz) Infinitely variable between 1 (fast) and 10 (slow)
High pass filter per input channel	Switchable and selection of fixed cut-off frequencies: 4kHz, 8kHz, 16kHz
Low-pass filter per input channel	Switchable and selection of fixed cut-off frequencies: 50Hz, 100Hz

13.3. Electrical Data

Information in square brackets **[...]** show the imprint on the housing.

Power supply range		
	Input $230V_{AC}$ [**200–260V$_{AC}$**]	$200 – 260V_{AC}$, 40 – 60Hz
	Input $48V_{DC}$ [**42-60V$_{DC}$**]	$42 – 60V_{DC}$
Maximum power consumption		
	Input $230V_{AC}$ [**200–260V$_{AC}$**]	$3,5A_{eff}$
	Input $48V_{DC}$ [**42-60V$_{DC}$**]	$20A_{eff}$
Inrush current		
	Input $230V_{AC}$ [**200–260V$_{AC}$**]	< 16A
	Input $48V_{DC}$ [**42-60V$_{DC}$**]	< 25A
Leakage current		
	Input $230V_{AC}$ [**200–260V$_{AC}$**]	< 3.5mA
Heat loss rate (idle mode): Plus per active amplifier:		25W

	with speech (-12dB)	+10W
	with music (-9dB)	+15W
	at maximum sine power (0dB)	+30W
Connected value / maximum power consumption		1kW
Efficiency at full load		> 80%
Ingress Protection		IP30 (EN 60529)
Protection class		Class I (EN 61140 / VDE 0140-1)

13.4. Environmental Data

Operating temperature	-5°C – +55°C
Operating air humidity	0% – 100%, non-condensing
Storage temperature	-5°C – +60°C

13.5. Standards

The product meets the following standards:

- DIN EN 50121-4:2017
- DIN EN 50130-4:2015
- DIN EN IEC 60268-3:2019
- DIN EN 60950-1:2007
- DIN VDE 0833-4: 2014
- DIN EN 54-16:2008
- TRVB S 158
- ISO 7240-16: 2007

13.6. Nameplate

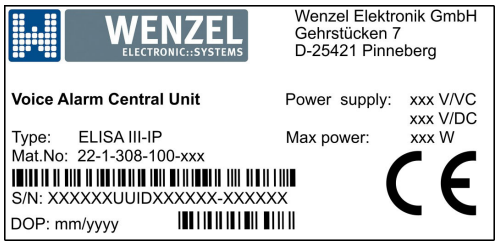


Figure 69. Nameplate for ELISA III-IP

13.7. Dimensions and Weight

NOTICE

RISK OF CABLE DAMAGE

If there is not enough space left in the depth to safely lay the cables, breaks and functional losses can occur.

- An additional space requirement in the installation depth of at least 90mm should be taken into account when wiring.

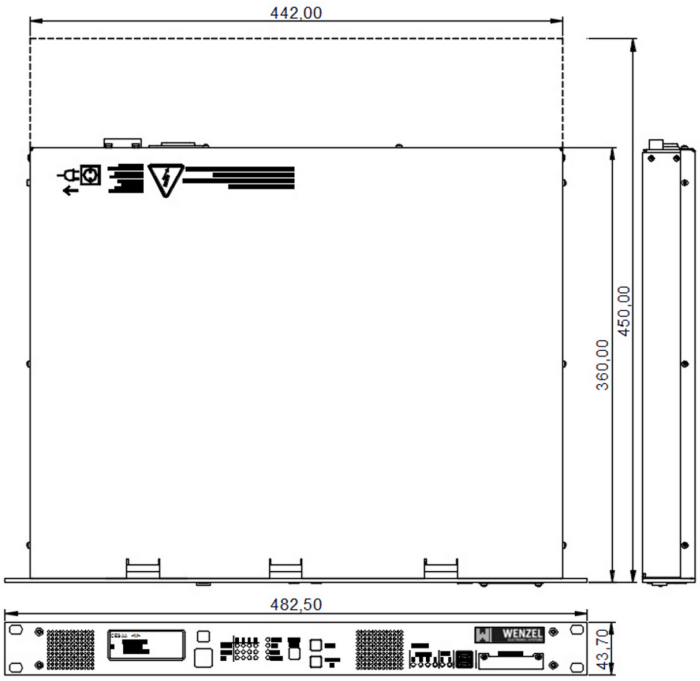


Figure 70. Dimensions

Type	Values
Width	482,5mm
Height	43.7mm (1 HU)
Depth	360mm
Weight	8.4kg

Table 51. Dimensions and weight

14. Ordering Accessories and Spare Parts

When ordering from Accessories or spare parts or License extensions we ask for the following information:

- Serial number and type designation of the system / product.
- Order number of the accessory or spare part according to the accessories catalog / spare parts list.
- Number of accessories or spare parts required.
- License number, customer number and desired type of extension.

Send your order / request to:

WENZEL Elektronik GmbH

Gehrstücken 7

25421 Pinneberg

Visit us on our website:

www.wenzel-elektronik.de

14.1. Order Number

Product Name	Material Number
ELISA III-IP	22-1-308-100-001
WM-HOST Host computer	22-1-308-110-100
CE-AMP224 External Amplifier	22-1-308-240-224
WM-AMNS Ambient Noise Sensor	22-1308-100-130
CE-FPX screwdriver (for installing the master module) Is not part of the scope of delivery.	22-1-308-200-102
CE-FPM-B master module, including all basic functions (at least 1x per system)	22-1-308-200-111
CE-E3 Filter Mounting Set	22-1-308-400-190
CE-VAS air filter (replacement)	22-3-608-3087
Filter mats for the air filters	22-3-608-3089

Appendix A. Calendar File Format

ICalendar files are supported. These must conform to RFC5545, RFC7529 to ensure successful parsing.

It handles entries of type `VEVENT` within a `VCALENDAR`. The following entries are specifically evaluated:

- `SUMMARY`: Enter the value for the attenuation in dB. The value must be an integer.
- `RRULE`: Specification of the repetition rule. Tested are `[FREQ=DAILY, FREQ=WEEKLY, BYDAY=...]`, however, others are supported by the library libical 2.0.0.
- `DTSTART`: Start time of the night attennuation with indication of the time zone TZID.
- `DTEND`: End time of the night attenuation.

A simple example of an iCalendar file for the night attenuation by 6 dB from 10:00 p.m. to 6:00 a.m. the following day:

```
BEGIN:VCALENDAR
BEGIN:VEVENT
DESCRIPTION:Nachtabsenkung
SUMMARY:6
RRULE:FREQ=DAILY
DTSTART;TZID=Europe/Berlin:20170327T220000
DTEND;TZID=Europe/Berlin:20170328T060000
END:VEVENT
END:VCALENDAR
```

Appendix B. LCD Navigation Diagram

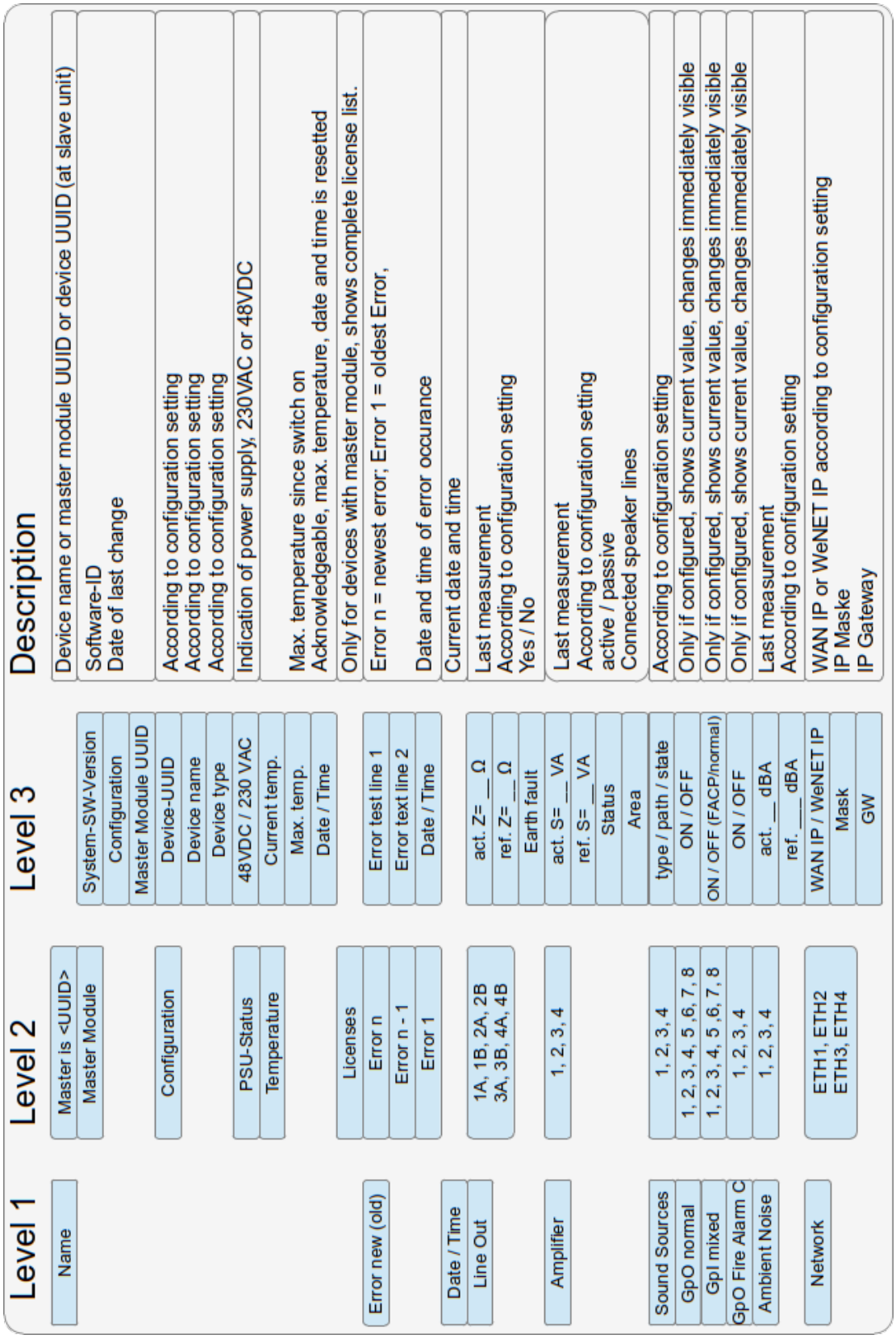


Figure B.1. Navigation structure LCD

Appendix C. EC Declaration of Conformity

EG-KONFORMITÄTSERKLÄRUNG

EC-DECLARATION OF CONFORMITY / CE-DÉCLARATION DE CONFORMITÉ

Wir erklären für die / We declare for the / Nous déclarons pour la

Wenzel Elektronik GmbH,
25421 Pinneberg, Gehrstücken 7, Germany
(Name des Anbieters / suppliers name / nom du fouisseur)

in alleiniger Verantwortung, dass das Produkt / under our sole responsibility that the product / sous notre seule responsabilité que le produit

ELISA III-IP
(Bezeichnung, Typ oder Modell, Los-, Chargen- oder Seriannummer, möglichst Herkunft und Stückzahl/ name, type or model, lot, batch or serial number, possibly sources and numbers of items / nom, type ou modèle, no. de lot, d'échantillon ou série, éventuellement sources et nombre d'exemplaires)

auf das sich die Erklärung bezieht, gemäß den Bestimmungen der Richtlinie(n) / following the provisions of the directive(s) / conformément aux dispositions de(s) directive(s)

- Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit **2014/30/EU**
- Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrischer Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen **2014/35/EU**
- Richtlinie des Rates zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten **2011/65/EU**
- Richtlinie des Rates zur Festlegung harmonisierter Bedingungen für die Vermarktung von Bauprodukten **2011/305/EU**

mit den folgenden Normen oder normativen Dokumenten übereinstimmt: / to which this declaration relates is in conformity with the following standards or other normative documents: / auquel se réfère cette déclaration est conforme aux normes ou autres documents normatifs:

Produktsicherheit:	**EN 60950**
Elektromagnetische Verträglichkeit:	**EN 50121-4 (2007), 50130-4 (2015)** **EN 61000-4-2 (2009), EN 61000-4-3 (2006)** **+A1 (2008) +A2 (2010)** **EN 61000-4-4 (2012), EN 61000-4-5 (2006)** **EN 61000-4-6 (2009), EN 61000-4-9 (2001)**
Sprachalarmzentralen:	**EN 54-16 (2008)**

(Titel und/oder Nummer sowie Ausgabedatum der Norm(en) oder der normativen Dokumente /title and/or number and date issue of the standard(s) or other normative document(s) / titre et/ou no. de publication de la (des) norme(s) ou autre(s) document(s) normatif(s))

Betriebs- und Einsatzbedingungen / Operation and application conditions / modes d'opération et d'application

keine Einschränkungen

Anbringung der CE-Kennzeichnung: 16

Pinneberg, 22.07.2016
(Ort und Datum der Ausstellung / place and date of issue / lieu et date)

Dr. Henkel Zwick

(Namen und Unterschriften der Befugten / names and signatures of authorized persons / noms et signatures des signataires autorisés)
Wenzel Elektronik GmbH

EC-Declaration-of-Conformity-WM-ELISA III-IP.odt

Appendix D. Change Index

Release	Date	Name	Description
3.1	30.06.2020	VN	Extensive editorial and content revision. Chapter **TS call station** deleted.
4.0	20.10.2022	VN WA	Rename the document to **Instruction Manual** General and safety chapters added **Introduction**, **Safety**, **Transport and Storage**, **Assembly and Installation**, **Commissioning**, **Operation**, **Decommissioning and Disposal**, **Error Codes** Chapter **Description and Overview**, **Pin assigment**, **Maintenance and Repair**, **Ordering Accessories and Spare Parts** redesign Chapter **Configuration application WeView** updated and corrected. Chapter **Technical specifications**, **Configuration application WeView** corrected and formally edited. In **Essential software features** were the **DSP functions** explained in more details. **Environmental data** has been updated Removed the following chapters: **Appendix B GNU License**, **Configuration Storage** **Appendix B. LCD Navigation Chart** new added
4.1	22.06.2023	VN WA	In the chapter **Electrical data** the input voltage was corrected. All graphic tables have a new layout In the chapter **Control Output GpOut** the safety notice has been corrected.

Release	Date	Name	Description
4.2	18.09.2023	VN WA	Chapter **Activation of HTTPS added.** Technical changes in the chapter **Access to WeView** added. In the chapter **Electrical data** corrections were made. In the chapter **Amplifiers and interfaces** corrections were made.
4.3	28.02.2024	VN WA	Chapter **Explanations ELAService.log** added. In chap. **Control output GpOut** and in Chap. **Amplifiers and interfaces** corrected an error. In chap. **Output power greater than 150W** additions have been made.
4.4 See release note	24.04.2024 See release note	WA	In the chapter **Amplifiers and interfaces** corrections were made.
See release note	See release note	WA	Cap. **Initial commissioning** Recommendation added. Cap. **Change delivery password** newly added. Cap. **Activation of HTTPS** moved to the chapter Initial commissioning.

Table D.1. Change index ELISA III-IP

Document-ID: SAA-100067-4.5

Metadaten:

/Wenzel/Dokumente/E/Produkte/ELISA III/Dokumentationen/Zentraleinheit

Name:	Instruction Manual ELISA III-IP-4.5.pdf
Titel:	Central Unit ELISA III-IP
Author:	
Erstellt am:	02.09.2024 12:26
Freigabe-Dokumenten ID:	SAA-100067-4.5
Beschreibung:	Paligo Output

Dieses Dokument wurde genehmigt von:

Author:	auerswald	28-8-2024
Produktionsleitung:	siepmann	28-8-2024
Systemsleitung:	jahn	28-8-2024
Entwicklungsleitung:	powelz	28-8-2024
Systemsolution:	nissen	2-9-2024