

Smart infrastructure intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work.

We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources.

It helps our customers to thrive, communities to progress and supports sustainable development.

Creating environments that care.
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Cerberus PACE Modular Public Address and Controlled Evacuation Planning Tool

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Introducing Cerberus PACE



The sound of safety

Cerberus PACE – Public Address and Controlled Evacuation

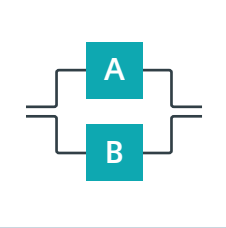
In commercial and public buildings, life safety must always be the highest priority. Effectively moving people out of harm's way in case of an emergency is largely a matter of communication – which is why public address and voice alarm (PA/VA) systems in these buildings aren't just a useful tool for announcements, entertainment or live moderation but an integral part of the safety infrastructure.

With Cerberus PACE, you can cover all your PA/VA needs with a single solution. It was designed with the specific convenience and emergency applications in modern businesses and organizations in mind, from ambient music to public speaking to guided evacuation. Thanks to its state-of-the-art modular and scalable system architecture, Cerberus PACE can be customized for buildings of all types and sizes and offers unique benefits that will reliably ensure the safety and comfort of your employees, visitors and guests 24/7.

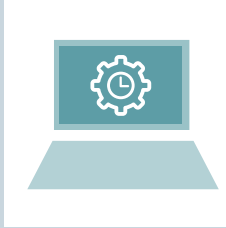
Your benefits at a glance



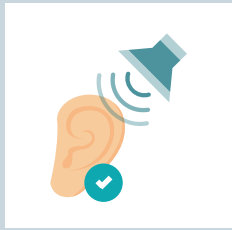
Beyond EN 54-16
Regulatory compliance and much more thanks to state-of-the-art technology



Multi-redundancy
Maximum system reliability with redundant components up to complete double structure



Real-time engineering
System configuration without restarts ensures business continuity at all times



Pro Sound
High-quality, low-latency speaker output for optimum intelligibility and comfortable ambience



Step-by-step modernization
Smooth system implementation with addressable end-of-line modules



Loop isolators
Failsafe loop isolators thanks to omission of error-prone capacitors

System planning in three steps

Every building has it's own requirements when it comes to a PAVA system. Ensure that you have all relevant information, so that our planning tool can help you to create a fitting system configuration.

1

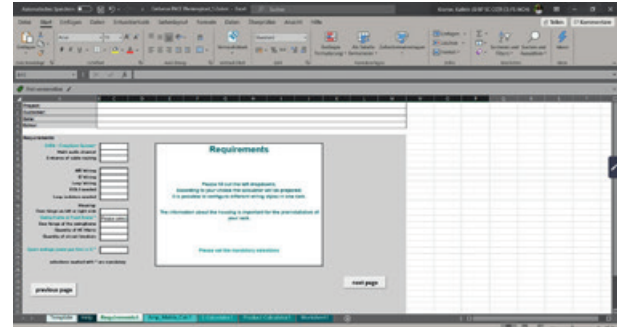
Collect the necessary information

- List of all speaker lines (including wattage)
- Line wiring (A, B or loop)
- Single channel (one audio signal active at a time) or multi channel (2 and more audio signals active at a time)
- Grouping of speaker lines
- List of call stations

2

Enter all information in the planning tool

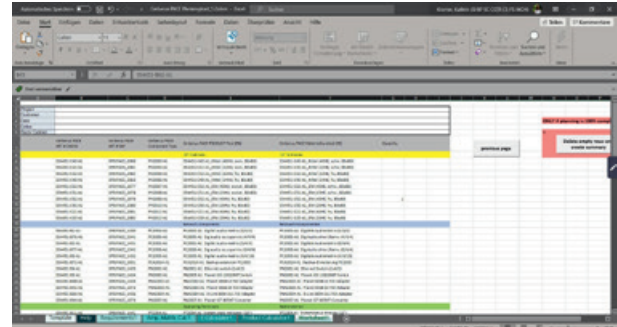
Our Excel based planning tool verifies the entries and proposes a proper system configuration.



3

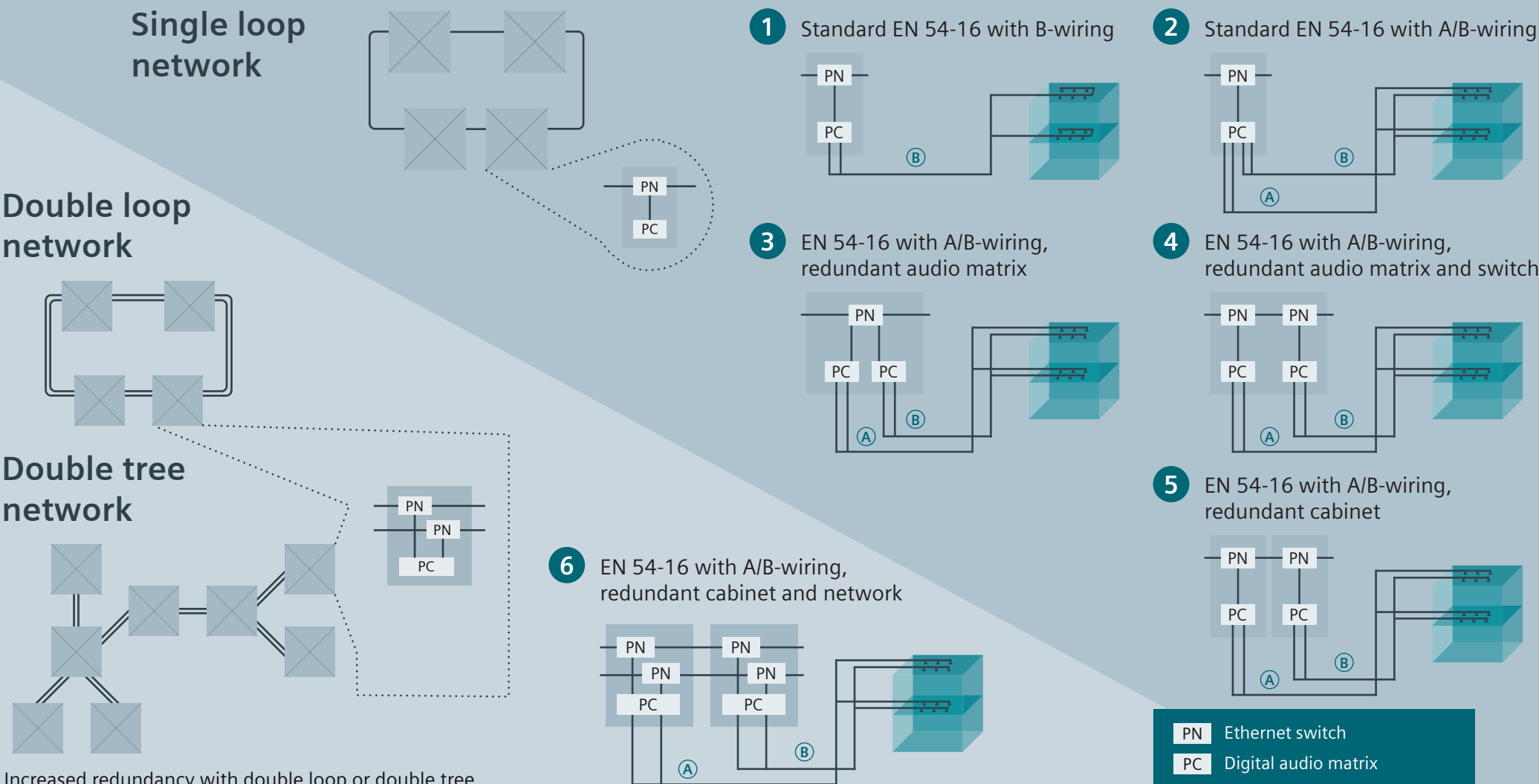
Order your system

By using the summary list out of the planning tool, the correct numbers of components can be ordered.



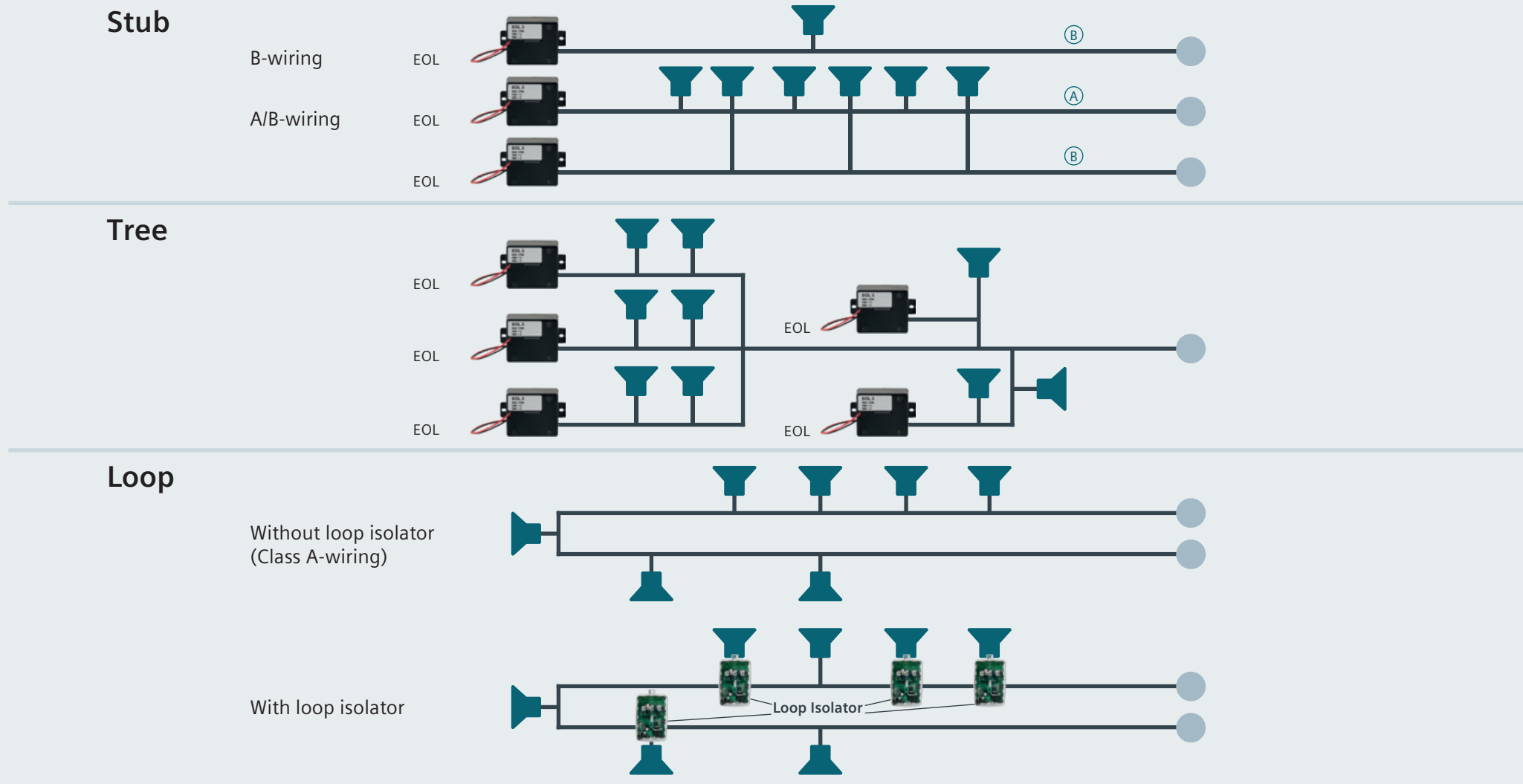
Multi-redundancy

To ensure failure safety for all applications, Cerberus PACE can incorporate all redundancy levels from individual backup components up to a complete double structure. Moreover, the network can be made redundant by expanding the EN 54-16 standard single loop network topology to a double loop / double tree topology or combinations thereof.

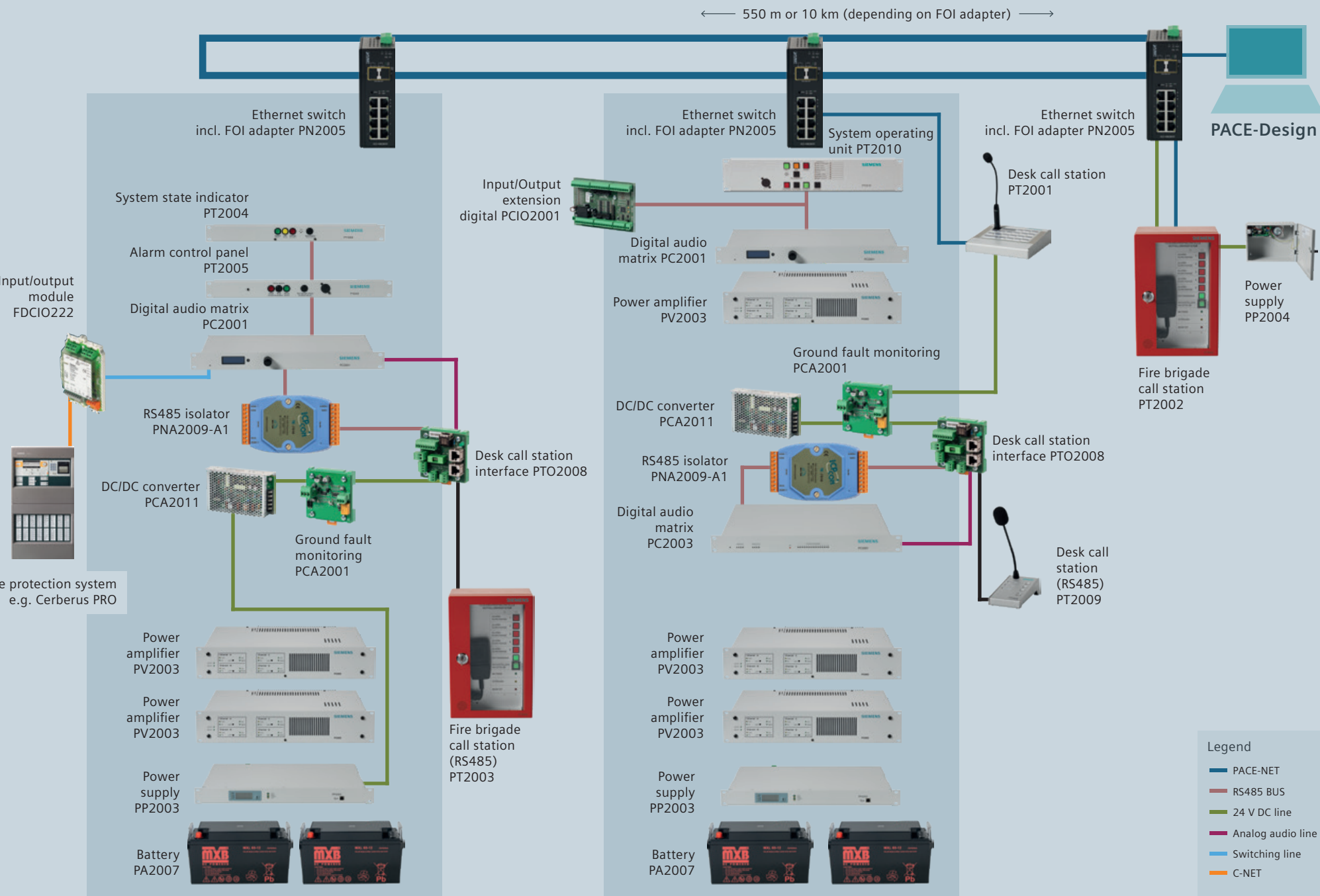


Speaker line structures

Depending on the customer requirements and desired level of redundancy, several options are available for the speaker lines. From single to double stubs, trees, and loops with or without isolators, all major designs are possible. End-of-line modules ensure the speaker lines are functioning correctly, continuously checking their integrity and notifying should there be a fault.



Cerberus PACE system overview



Base components

Digital audio matrix

Name	Digital audio matrix (4/4/4) PC2001-A1 Order no.: S54451-B1-A1	Digital audio matrix (0/4/4) PC2002-A1 Order no.: S54451-B2-A1	Digital audio matrix (4/4/16) PC2003-A1 Order no.: S54451-B3-A1	Digital audio matrix (4/4/4) PC2005-A1 Order no.: S54451-B76-A1	Digital audio matrix (4/4/4) PC2006-A1 Order no.: S54451-B77-A1
Digital in/out	8/8	8/8	8/8	8/8	8/8
Analog audio in/out	4/4	0/4	4/4	4/4	0/4
Speaker lines	4	4	16	no supervised speaker lines	no supervised speaker lines
Analog inputs (10 V)	8	8	0 (can be added via PCIO2001)	8	8
Amplification	Zone	Zone	Zone and Bulk	Zone	Zone

Shared properties

- Digital signal processing (DSP)
- Fault relay
- Slot for 2GB microSD flash card
- One interface (RS232 or RS485)

Control panels

System state indicator (door) PT2007

- Display: operation, fault, voice alarm
- For external housing or custom applications

Order no.: S54451-B14-A1

System state indicator (19") PT2004

- Display: operation, fault, voice alarm

Order no.: S54451-B11-A1

Alarm control panel (19") PT2005

- Trigger keys: voice alarm, reset, mute

Order no.: S54451-B12-A1

System operating unit (19") PT2010

- Display: Operation, fault, voice alarm
- Trigger: Voice alarm, reset, mute
- 16 fault indicators

Order no.: S54451-B56-A1

Remote control panel PT2006

- For non-alarm applications only (no alerting)
- Zone regulation in UP version
- Programmable functions for the respective zone: volume control, preset selection, selection of audio input source

Order no.: S54451-B13-A1

Cabinets

Available options	ERA 60x60 cm	80x80 cm	Rittal 80x80 cm
Fixed frame small	PH2012 26 HU / 145 cm Order no.: S54451-C20-A1	PH2010 26 HU / 145 cm Order no.: S54451-C50-A1	PH2006 24 HU / 135 cm Order no.: S54451-C40-A1
Fixed frame large	PH2011 43 HU / 220 cm Order no.: S54451-C21-A1	PH2009 43 HU / 220 cm Order no.: S54451-C52-A1	PH2005 42 HU / 215 cm Order no.: S54451-C42-A1
Swivel frame small		PH2008 23 HU / 145 cm Order no.: S54451-C51-A1	PH2004 22 HU / 135 cm Order no.: S54451-C41-A1
Swivel frame large		PH2007 40 HU / 220 cm Order no.: S54451-C53-A1	PH2003 40 HU / 215 cm Order no.: S54451-C43-A1

Legend: HU = Height Unit; Height includes ventilator roof, socket and side panel



Call stations and accessories



Name	Desk call station (19 buttons) PT2001-A1 Order no.: S54451-B6-A1	Desk call station (RS485, 8+1) PT2009-A1 Order no.: S54451-B33-A1	Desk call station (analog, 3+1) PT2008-A1 Order no.: S54451-B32-A1	Fire brigade call station (RS485) PT2003-A1 Order no.: S54451-B9-A1	Fire brigade call station (RS485) PT2003-A1 Order no.: S54451-B10-A1
Type	Alerting and business call station	Alerting and business call station	Standard call station for non alarm application	Alerting call station	Alerting call station
Connection Interface	Ethernet (max. 100 m) via Repeater PNA2007 (200 m) or Converter PN2007 (Up to 10 km)	RS485 (max. 500 m) PTO2008 interface (not included) to PC2001, PC2003	Analog (max. 150 m) Interface (included) to PC2001, PC2003	Ethernet (max. 100 m) via Repeater PNA2007 (200 m) or Converter PN2007 (Up to 10 km)	PTO2008 interface (not included) to PC2001, PC2003
Buttons	19	8+1	3+1	6	6
Integrated loudspeaker	Yes	No	No	Yes	No
Extension and Accessories	• Up to 4x extensions (each 24 buttons) PTO2001 • Kaba/Nordic key extension • Gooseneck microphone • Mounting kit DCS (19"/5 HE)	• Up to 3x extensions (each 8 buttons) PTO2006	-	-	-
Power supply	External Power supply or from the PP2003 inside the cabinet via DC/DC converter PCA2011/2018 and ground fault monitoring PCA2001.				

Desk call station extension (24 buttons) PTO2001

- Max. 4 extensions per call station

Order no.: S54451-B7-A1

Desk call station extensions Kaba PTO2002

Order no.: S54451-B8-A1

Nordic PTO2003

Order no.: S54451-B48-A1

Desk call station extension (RS485, 8) PTO2006

- For external housing or custom applications

Order no.: S54451-B51-A1

Desk call station interface (8+1) PTO2008

- Needed to connect PT2009 to PC2001 or PC2003

Order no.: S54451-B58-A1

RS485 isolator PNA2009-A1

- Isolator for the RS485 Bus

Order no.: S54451-B30-A1

Call stat interface (redundant) PTO2009-A1

- Offers redundant power supply to the Network call stations

Order no.: S54451-B59-A1

Camdenboss RJ45 Interface PNA2008-A1

- RJ45 to screw clamp interface

Order no.: S54451-B40-B1

Gooseneck microphone DCS PTO2004

- For PT2001

Order no.: S54451-B49-A1

Mounting kit DCS (19 1/2 HU) PTO2005

- For mounting PT2001 onto cabinet

Order no.: S54451-B50-A1

Network and power components

Network switches

Ethernet switch (1x 8/2) PN2005

- Network switch with 8 Ethernet and 2 modular FO ports (optional ring topology)

Order no.: S54451-B5-A1

FOI adapter PNA2002

- Switch FO module
- Fiber optic interface single mode
- Up to 10 km
- LC connector

Order no.: S54451-B38-A1

FOI adapter PNA2003

- Switch FO module
- Fiber optic interface multi mode
- Up to 550 m
- LC connector

Order no.: S54451-B41-A1

FOI adapter PNA2004

- Fiber optic interface multimode adapter needed to connect to PN2001 LC connector

Order no.: S54451-B39-A1

Ethernet switch (2x 4/2) PN2001

- Double switch with 8 Ethernet (2x 4 ports) and 2 FO ports
- No spanning tree

Order no.: S54451-B4-A1

Media converter (1x 1/1) PN2007

- 1 Ethernet port and 1 modular FO port

Order no.: S54451-B44-A1

Power supply

Power supply (19", 320 Ah) PP2003

- Output: 400 W @ 24 VDC
- 24 V outputs to amplifiers: 6x 30 A
- 24 V output other: 2x 10 A
- Monitoring: input/output, battery
- Max. battery capacity: 24 V / 320 Ah

Order no.: S54451-B61-A1

Power supply (wall-mounted, 40 Ah) PP2004

- Output: 125 W @ 24 VDC
- Wall-mounted remote power supply and charger
- Monitoring: input/output, battery
- Max. battery capacity: 24 V / 40 Ah

Order no.: S54451-B62-A1

Power amplifiers

Power amplifier PV2007

- Power supply: 230 VAC and 24 VDC
- 1x 250 W output power

Order no.: S54451-B34-A1

Power amplifier PV2001

- Power supply: 230 VAC and 24 VDC
- 2x 250 W or 1x 500 W (in bridge mode 100 V only) output power

Order no.: S54451-B15-A1

Power amplifier PV2002-A1

- Power supply: 230 VAC and 24 VDC
- 2x 500 W output power

Order no.: S54451-B16-A1

Power amplifier PV2003

- Power supply: 230 VAC and 24 VDC
- 4x 150 W or 2x 300 W (in bridge mode 100 V only) output power

Order no.: S54451-B17-A1

Batteries

Battery (12 V, 40 Ah) PA2006

Order no.: S54451-B68-A1

Battery (12 V, 65 Ah) PA2007

Order no.: S54451-B69-A1

Battery (12 V, 100 Ah) PA2008

Order no.: S54451-B70-A1

Battery (12 V, 150 Ah) PA2009

Order no.: S54451-B71-A1

Battery tray (19") PHA2007

Order no.: S54451-B42-A1

Accessories

Power supply

Ground fault monitoring (24 V) PCA2001

- Monitoring of 24 V lines for ground fault, e.g. in case of remote call stations

Order no.: S54451-B19-A1

DC/DC converter (24 V/50 W) PCA2011

- DC/DC converter for galvanic isolation of the 24 V line

Order no.: S54451-B65-A1

DC/DC converter (24 V/100 W) PCA2018

- DC/DC converter for galvanic isolation of the 24 V line

Order no.: S54451-B75-A1

Audio file storage

2 GB SD card (industrial) PCA2002

Order no.: S54451-B58-A1

Network

Repeater (CAT5) PNA2007

- Extend the length of one Ethernet connection from 100 m to 200 m
- 100 MBits Ethernet network expsion (more than 100 m)
- 4x Ethernet port
- 1x FO fiber: multimode, 1310 nm (SC connector)
- 24 V input

Order no.: S54451-B52-A1

Automatic volume control

Automatic volume control microphone PCA2007

- Supplied with phantom power via PCA2008

Order no.: S54451-B25-A1

Automatic volume control module PCA2008

- Connection via audio input 4
- Use with PC2001, PC2003 and PC2005
- Can connect up to 4 PCA2007

Order no.: S54451-B26-A1

Input/output

Input/output extension digital (16) PCIO2001

- 16 additional digital inputs and outputs
- 8 analog inputs
- Connection via RS232
- Use with PC2001, PC2002 and PC2003
- Relay contact: Max. 7 A

Order no.: S54451-B28-A1

Output extension relay (8) PCO2001

- 8 additional relay outputs
- Connection via RS232
- Use with PC2001, PC2002 and PC2003
- Relay contact: Max. 7 A

Order no.: S54451-B27-A1

End-of-line (EOL) module

EOL3 (active) PCA2004

- Active end-of-line device for speaker lines
- Up to 16 modules per amplifier
- Use with PC2001, PC2002 and PC2003

Order no.: S54451-B22-A1

Backup extension

Backup extension PCA2014

- for PC2003

Order no.: S54451-B72-A1

Loop isolators

Loop isolator (100 V) PCA2005

- Active loop isolator device for speaker lines
- Opens speaker line loop in case of short circuit
- Up to 80 loop isolators per speaker line loop
- Only PC2003 supports loop isolators

Order no.: S54451-B53-A1

Loop isolator box PCA2013

Order no.: S54451-B54-A1