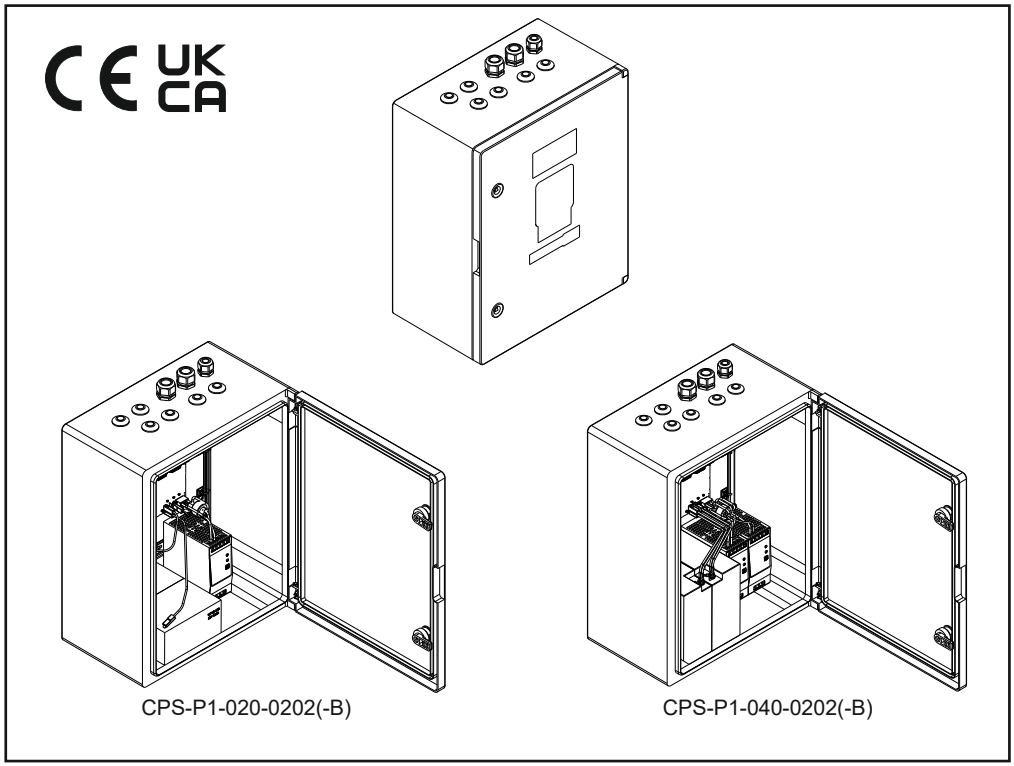


CPS-P1



CPS-P1-020-0202(-B)

CPS-P1-040-0202(-B)

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Introduction

D+H service and sales partners
Safety in the building not only comes from the product. Above all, safety results from competence. All D+H service and sales partners are certified and regularly trained specialist SHEV businesses. Working closely with D+H Mechatronic AG as the manufacturer, they develop comprehensive system solutions for SHEVs and natural building ventilation. With integral customer support and continuous quality assurance in all phases of the project: from sales advice, planning and project management through to installation, commissioning, repair and service. The highest national and international quality standards are therefore reliably fulfilled.

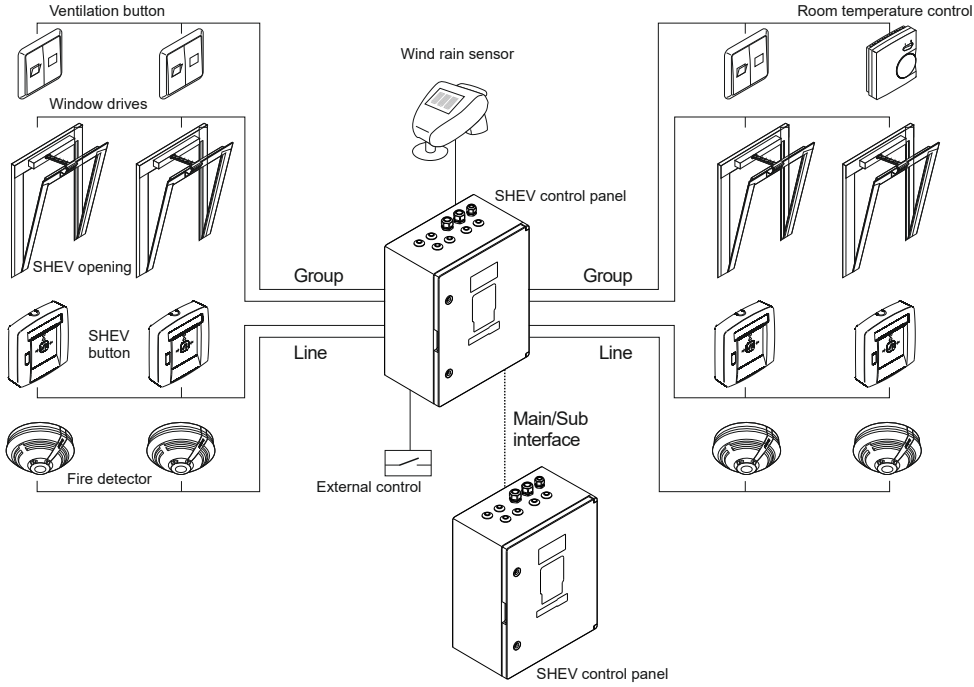
Installation and operation
The comprehensive network of D+H service and sales partners is at your disposal to professionally install your system and commission it. Our partner system guarantees that D+H products are installed exclusively by trained and experienced fitters, in compliance with the technical guidelines and specifications. Personal handover and training for users is included.

Maintenance and repair
Every building operator is responsible for ensuring that its safety equipment works reliably. Regular and professional maintenance ensures that your system is always operational. As specialist SHEV businesses, the D+H service and sales partners are best qualified to carry out maintenance. By taking out a maintenance contract, operators can prove at all times that they have fulfilled their obligations.

Quality with guarantee
For all D+H SHEV systems, which have been installed by a D+H service and sales partner and are regularly serviced, you will receive extended warranty services. Ask your local D+H service and sales partner about this.

Always nearby
With the network of our own subsidiaries and exclusive partners, we are represented nearly all over the world.
Are you looking for your local D+H partner?
Simply visit our website:
www.dh-partner.com

Assembly scheme



WARNING

Read all safety warnings, instructions, illustrations and specifications provided with this product. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

Safety notes

Operating voltage 230 V AC!
Risk of injury from electric shock!

- Connection has to be carried out only by an authorized electrical specialist
- Before working on the attachment, the mains voltage and the emergency power supply (e.g. batteries) must be disconnected at all poles and secured against unintentional restarting. When working on the control panel, the work area must be secured against unauthorised access. It must be ensured that unauthorised persons do not open the control panel.
- Only for inside mounting
- Just use unchanged original D+H parts

Scope of supply

- Control panel
- Battery cable set
- Battery bridge
- Cable glands PG21 and PG16 with PG locknuts and PG seal
- Cable entry gland
- Group terminal module EM47-K
- Termination resistor 110 Ω
- Housing assembly pack

Servicetimer

An overdue maintenance of the system will be indicated by the control panel after about ca. 14 to 16 months.

The yellow LED in the smoke vent button will start flashing.

A malfunction of the smoke vent system will be still indicated by the extinction of the green LED in the smoke vent button.

After the maintenance time is expired (approx. 14 to 16 months), the ventilation function OPEN can be interrupted depending on the presetting of the service timer.

Attention: Reset of the service timer can be carried out by a specialist company only, who has been authorized by the appliance manufacturer.

Intended use

- High-performance SHEV controller (e.g. for warehouse applications) for smoke exhaust from buildings and ventilation. The main task is to discharge hot smoke and combustion gases in case of fire in order to save human lives and protect real value.
- Only for inside mounting

Performance features

The design of the housing (plastic or sheet steel), the installation of the circuit board (on the rear or side) and the networking function (networked or basic) depend on the selected variant.

- Microprocessor based control panel
- Main/sub function: Networking of up to 16 control panels
- 2 lines, 2 Groups
- 20 A or 40 A
- Group current max. 20 A
- Comfort functions for daily ventilation

Options with requirements according to ISO 21927-9

- Output to fire condition (option with requirements) Section 5.1.4.5
- Output to systems other than the smoke and heat exhaust system (option with requirements) Section 5.1.4.6
- Blockade (option with requirements) Section 5.1.4.7 Option A
- Detection of coincidence (Class D - option with requirements) Section 5.1.4.9
- Signal of earthing faults (option with requirements) Section 5.1.5.2
- Output of the error condition (option with requirements) Section 5.1.5.5

Declaration of Conformity

We declare under our sole responsibility that the product described under “Technical Data” is in conformity with the following regulations:

2014/30/EU, 2014/35/EU, 2011/65/EU

S.I. 2016/1091, S.I. 2016/1011, S.I. 2012/3032

Technical file at:
D+H Mechatronic AG, D-22949 Ammersbek

Dirk Dingfelder
CEO
07.09.2026

Maik Schmees
CTO

Technical data

Type	CPS-P1-020-0202(-B) 2x 12V / 12 Ah (Battery type 4)	CPS-P1-040-0202(-B) 2x 12V / 18 Ah (Battery-type 5)
Power supply Rated power Standby operating	230 V AC, 50 Hz (195 ... 253 V AC) 550 VA < 5 W	230 V AC, 50 Hz (195 ... 253 V AC) 1010 VA < 6 W
Output voltage Ripple	20.4 ... 26.4 V DC <0.5 V_{SS}	
Load on external outputs: N+ (Not supplied with emergency power) + (supplied with emergency power) max. Average curr. consumption over 72 h max.	 800 mA 800 mA 55 mA	 800 mA 800 mA 75 mA
Alarm / Ventilation: Output current[1] Mode of operation	 20 A Short-time duty, 30 % ED	 40 A Short-time duty, 30 % ED
Reliability class (acc. to ISO 21927-9)	Re 10000 DP	
Number of lines / groups[2] Fire detectors per line SHEV buttons per line Line voltage	2/2 max. 14 pcs.[3] max. 8 pcs.[3] 15 V DC	
Temperature range Ingress protection Protection class	-5 ... +40 °C IP54[4] (VdS IP30) II, with functional ground	
Plastic housing: Material Colour Dimensions WxHxD **Sheet steel housing:** Material Colour Dimensions WxHxD	 Plastic (ABS) Light grey (RAL 7035) 400 x 500 x 245 mm Sheet steel Light grey (RAL 7035) 500 x 500,5 x 210 mm	

[1] If the control panel is loaded above its nominal power, the control panel goes into a fault state.
[2] D+H Highspeed (HS) drives will be supported.
[3] In network mode, up to 224 fire detectors and 128 SHEV buttons per line can be connected.
[4] If more than 1 cable is inserted into the cable entry glands, the IP protection drops to IP30.

Important regulations

The planning and calculation of the electrical wiring system is the responsibility of the client, or their agents or the commissioned fitter, and must be carried out in accordance with the statutory regulations.

Observe regulations for danger warning systems VDE 0833, guidelines for electrical systems VdS 2221, VDE 0100, DIN 18232 for smoke and heat vent systems, regulations of the local fire-brigade and of EVU for connection to mains supply.

SHEV opening

Smoke gases are to be carried off as unhindered as possible through smoke and heat vent opening in case of fire. Size, kind and arrangement of the opening is of decisive significance for an optimal effect of the smoke and heat vent system.
These requirements are defined in the relevant regulations of the respective country.
More informations, are also available under **www.rwa-heute.de**.
The SHEV opening should be coordinated with the responsible fire protection authority.

Notes on drives

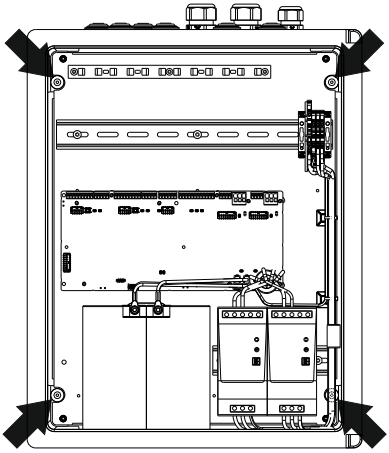
High-speed function (HS):
All D+H drives with SHEV high-speed function are supported. In daily ventilation operation, a considerable noise reduction is achieved through the reduced drive speed. In case of SHEV the drives run with a very high speed to reach the OPEN position defined within 60 seconds at the most.
SHEV retriggering:
(When DIP-Switch S4.8 = ON (Group 1) or S5.8 = ON (Group 2))
The smoke vents will be triggered with an OPEN-impulse every 2 minutes for a duration of 30 minutes. For this, the drives must be blockage safe. All D+H drives meet this precondition.
Mounting of the drives:
Please take mounting informations from the relevant instruction for use of the respective drive, because of varied possibilities for choosing drives.
Switching time:
The switchover time can be configured in the range of 0.5-5 s via SCS. The default switchover time is 0.5 s.

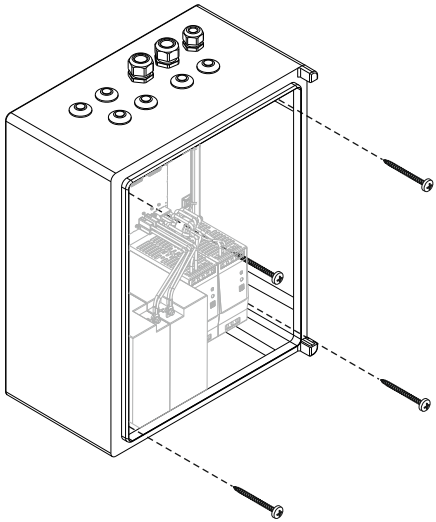
Mounting (Plastic housing)

NOTICE

Property damage!
Damage to the control panel due to fire and smoke exposure is possible.
- Install the control panel in a safe location, protected from fire and smoke exposure.
- Install the control panel near the drive.

A **This type of installation is to be preferred!**



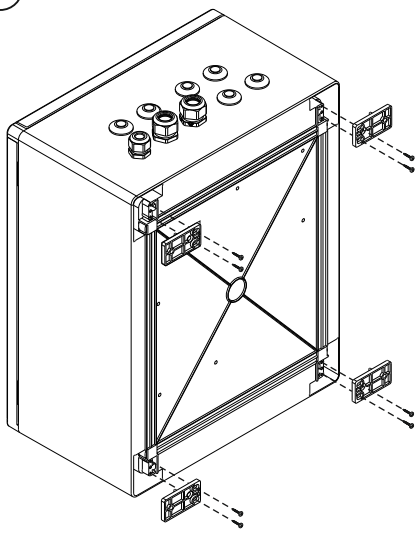


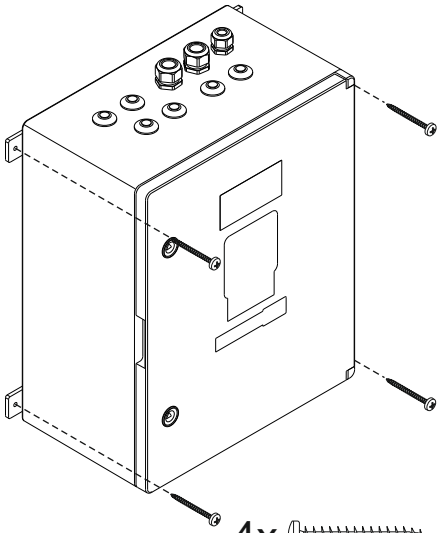
For variant A, an approx. 250 mm long bit is required for the screw connection of the housing to the wall.

4x

Ø max. 5 mm
(not included)

B **This type of installation is only valid for the 20 A design!**



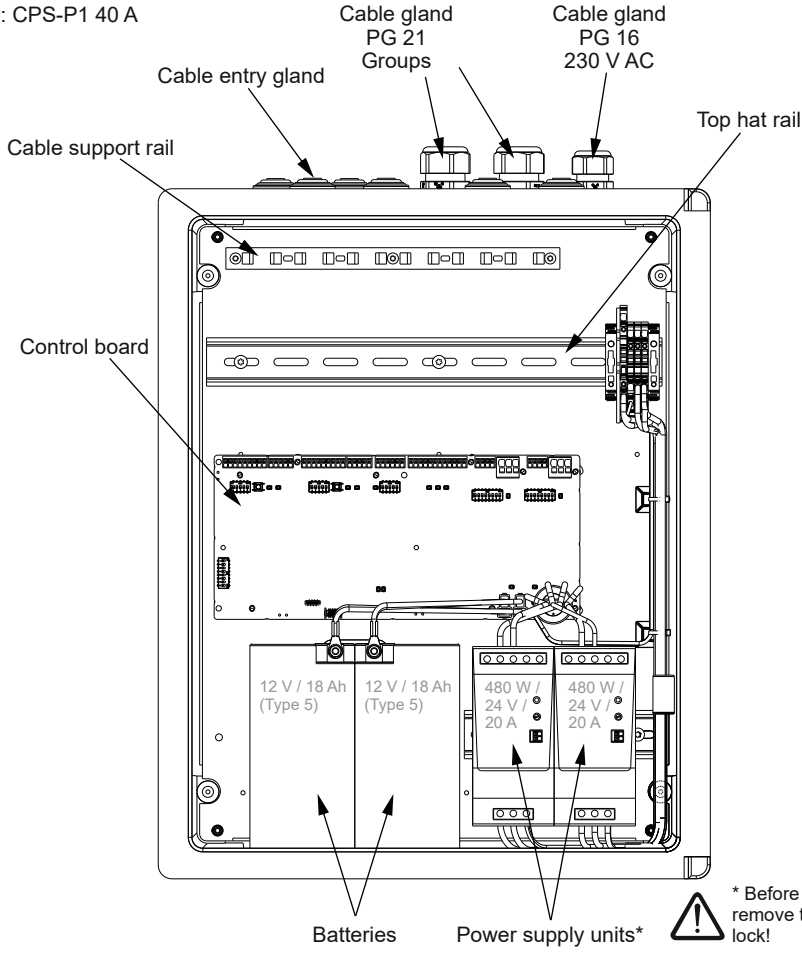


4x

Ø max. 6 mm
(not included)

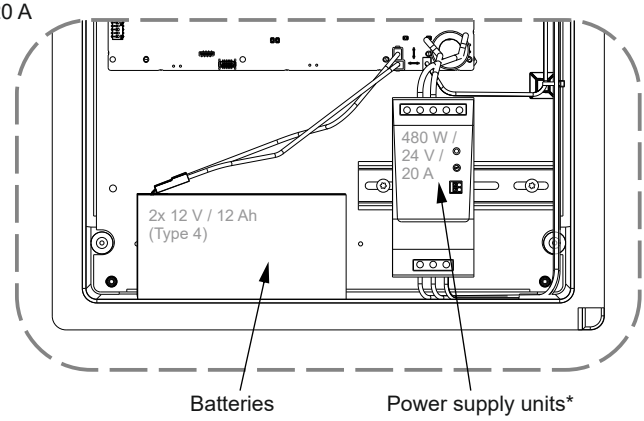
Overview (plastic housing) Circuit board on the rear

Fig.: CPS-P1 40 A



* Before commissioning, remove the transport lock!

Fig.: CPS-P1 20 A



Overview (plastic housing) Circuit board on the side

Fig.: CPS-P1 40 A

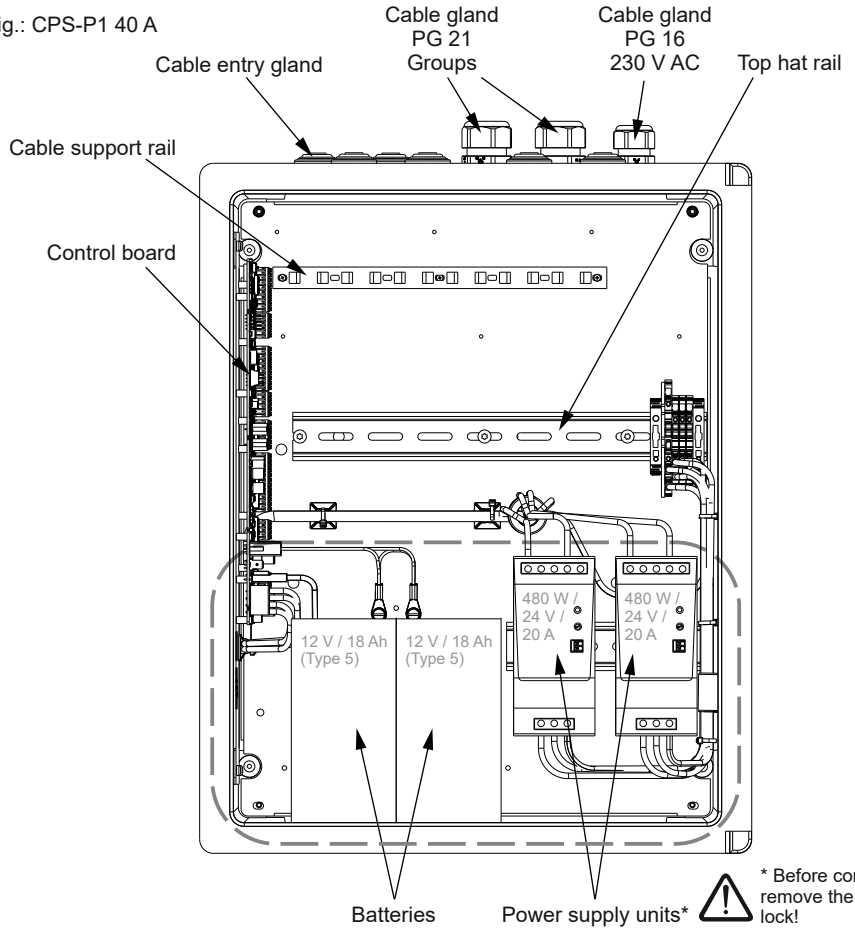
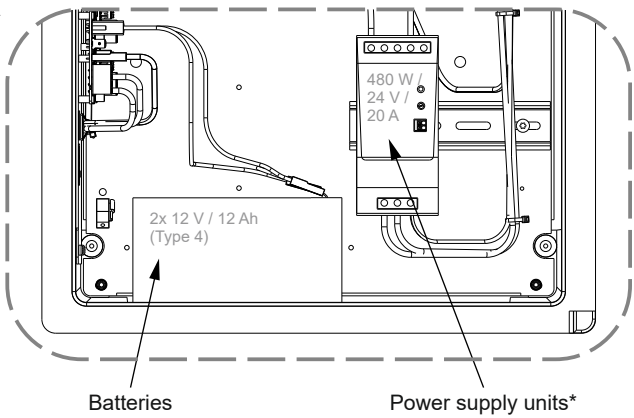


Fig.: CPS-P1 20 A



Overview (Sheet steel housing)

Fig.: CPS-P1 40 A

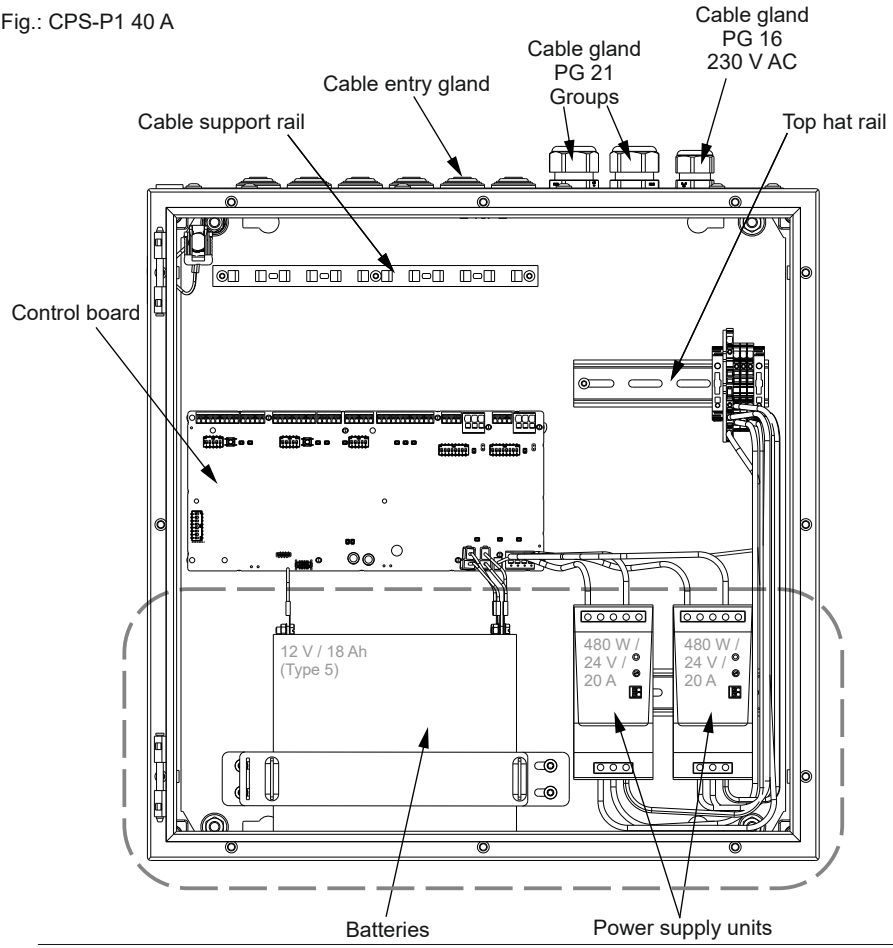
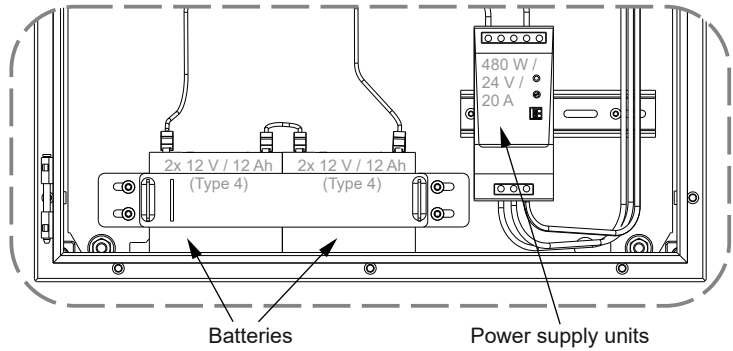
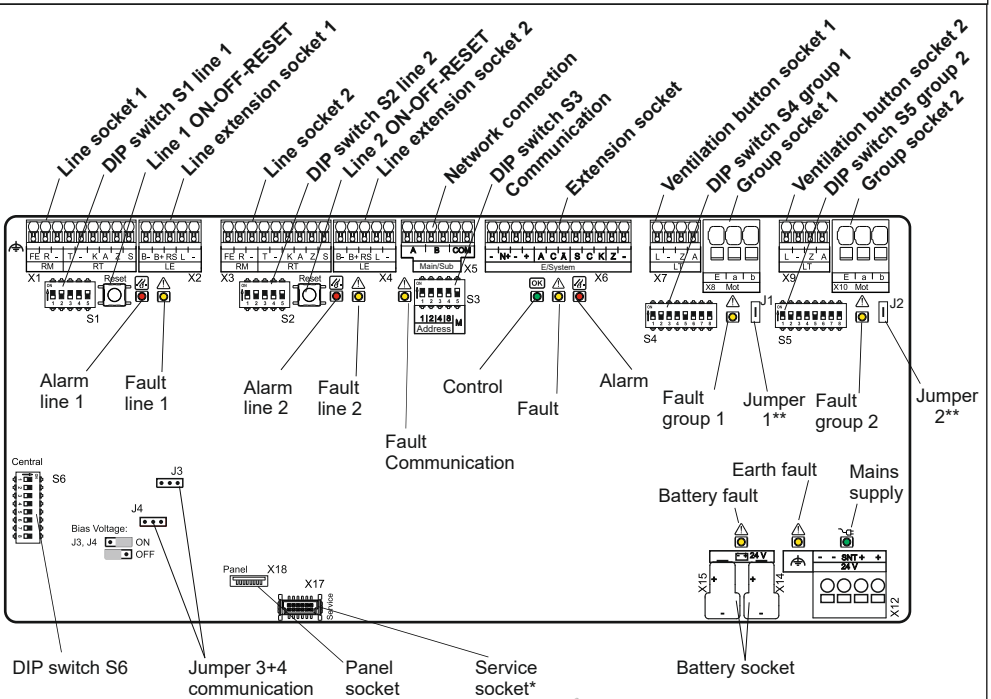


Fig.: CPS-P1 20 A



View motherboard



* Service socket

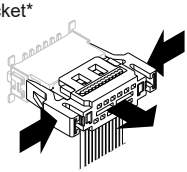
For programming various parameters (ventilation time, OPEN running time limit, invert FAS triggering) via the SCS software and for resetting the service timer.

**JP1 / JP2

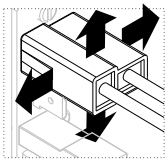
Jumper for voltage interruption of the group.
When the jumper is removed, the group is switched off, e.g. to allow maintenance work to be carried out safely.

Fire recognation element

The control panel has an internal measuring device for monitoring the internal temperature of the control device. If the internal temperature is exceeding 72 °C (caused by radiant heat of a fire in immediate vicinity of the mounting place), the entire smoke and heat vent system will be emergency opened under alarm conditions.



Releasing the service plug: Press the tabs together!



Disconnecting the battery plug: Tilt in all 4 directions and pull simultaneously!

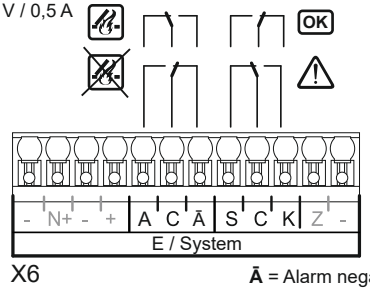
DO NOT lever off the plug with a screwdriver!

Pictogram explanation

	SHEV alarm
	Fault
OK	Control panel O.K.
M	D+H window drive
	Mains existing

Signalling relais

max. 30 V / 0,5 A



X6

Ā = Alarm negated

Terminal assignment

No.	Name	Description
Line 1 X1		
X1.1	FE	Connection for cable shield of the smoke detector cable
X1.2	R	Smoke detector triggering / monitoring input
X1.3	-	Reference potential
X1.4	T	Input smoke vent button triggering / monitoring
X1.5	-	Reference potential
X1.6	K	Output Smoke vent button Display Control
X1.7	A	Output smoke vent button Display alarm
X1.8	Z	Smoke vent button reset line / group CLOSED input
X1.9	S	Output smoke vent button Display fault
Line extension 1 X2		
X2.1	B-	FAS input Reference potential
X2.2	B+	Alarm input from FAS +24 V / +48 V
X2.3	RS	Input additional reset
X2.4	L	ON/output mutual alarm interlocking
X2.5	-	Reference potential GND
Line 2 X3		
X3.1	FE	Connection for cable shield of the smoke detector cable
X3.2	R	Smoke detector triggering / monitoring input
X3.3	-	Reference potential GND
X3.4	T	Input smoke vent button triggering / monitoring
X3.5	-	Reference potential GND
X3.6	K	Output Smoke vent button Display Control
X3.7	A	Output smoke vent button Display alarm
X3.8	Z	Smoke vent button reset line / group CLOSED input
X3.9	S	Output smoke vent button Display fault
Line extension 2 X4		
X4.1	B-	FAS input Reference potential
X4.2	B+	Alarm input from FAS +24 V / +48 V
X4.3	RS	Input additional reset
X4.4	L	ON/output mutual alarm interlocking
X4.3	-	Reference potential GND
Main / Sub Interface (Communication) X5 **(Not available in Basic design (-B))**		
X5.1	A	Communication connection A
X5.2	A	Communication connection A
X5.3	B	Communication connection B
X5.4	B	Communication connection B
X5.5	COM	Reference potential (Communication)
X5.6	COM	Reference potential (Communication)
E / System X6		
X6.1	-	Reference potential GND
X6.2	N+	Output not supplied with emergency power* (max. 800 mA)
X6.3	-	Reference potential GND
X6.4	+	Output supplied with emergency power* (max. 800 mA)
X6.5	A	Isolated output alarm - normally open contact

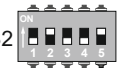
* See technical data

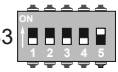
Terminal assignment

No.	Name	Description
E / System X6		
X6.6	C	Isolated output - COM
X6.7	Ā	Isolated output no alarm - normally closed contact
X6.8	S	Isolated output Fault - normally closed contact
X6.9	C	Isolated output - COM
X6.10	K	Isolated output Control - normally open contact
X6.11	Z	Input central CLOSED
X6.12	-	Reference potential GND
Ventilation button X7		
X7.1	L	Output not CLOSED signal
X7.2	-	Reference potential GND
X7.3	Z	Ventilation input - CLOSED
X7.4	A	Ventilation input - OPEN
Group socket X8		
X8.1	E	Drive line monitoring wire
X8.2	a	Output drives Mot.a
X8.3	b	Output drives Mot.b
Ventilation button X9		
X9.1	L	Output not CLOSED signal
X9.2	-	Reference potential GND
X9.3	Z	Ventilation input - CLOSED
X9.4	A	Ventilation input - OPEN
Group socket X10		
X10.1	E	Drive line monitoring wire
X10.2	a	Output drives Mot.a
X10.3	b	Output drives Mot.b
SNT X12		
X12.1	-	Reference potential GND
X12.2	-	Reference potential GND
X12.3	+	Power supply SNT +24 V DC
X12.4	+	Power supply SNT +24 V DC

DIP switch settings

Delivery state:

S1,S2 

S3 

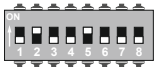


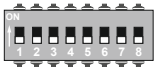
DIP switch S1, S2: Line 1, Line 2		
SX.1	2-smoke detector dependency	
	ON	**Two-smoke detector dependency** (only with SD-O 371/FO 1362)The alarm is only triggered if at least two smoke detectors in a line respond. A false alarm from a smoke detector is prevented.Two smoke detectors must always be installed in a room. If only one smoke detector is connected to a line, set the switch to OFF!
SX.2	Activate remote reset detector line	
	ON	A smoke detector alarm is reset by pressing the "SHEV CLOSED" button in the SHEV button.
SX.3	Line fault equals alarm	
	ON	In the event of a line fault, the control panel is switched to alarm, i.e. the smoke vent opens.
SX.4	Reset when an alarm is pending	
	ON	A permanently pending alarm on the RM line or the FAS input can be suppressed by a reset. If such an alarm is still present after a reset, the red LED in the smoke vent button flashes to indicate that it is suppressed.
SX.5	Scheduled bus service	
	ON	Line and the associated group are networked (linked).
	OFF	Line and the associated group are self-sufficient (not linked).
DIP switch S3*: Communication		
S3.1	Main control panel: Number of subs / Sub control panel: Address of the sub	
	ON	Binary 1
S3.2	Main control panel: Number of subs / Sub control panel: Address of the sub	
	ON	Binary 2
S3.3	Main control panel: Number of subs / Sub control panel: Address of the sub	
	ON	Binary 4
S3.4	Main control panel: Number of subs / Sub control panel: Address of the sub	
	ON	Binary 8
S3.5	Communication function	
	ON	This control panel is the Main control panel
	OFF	This control panel is a Sub control panel

* Information on setting the DIP switches on page 26

DIP switch settings

Delivery state:

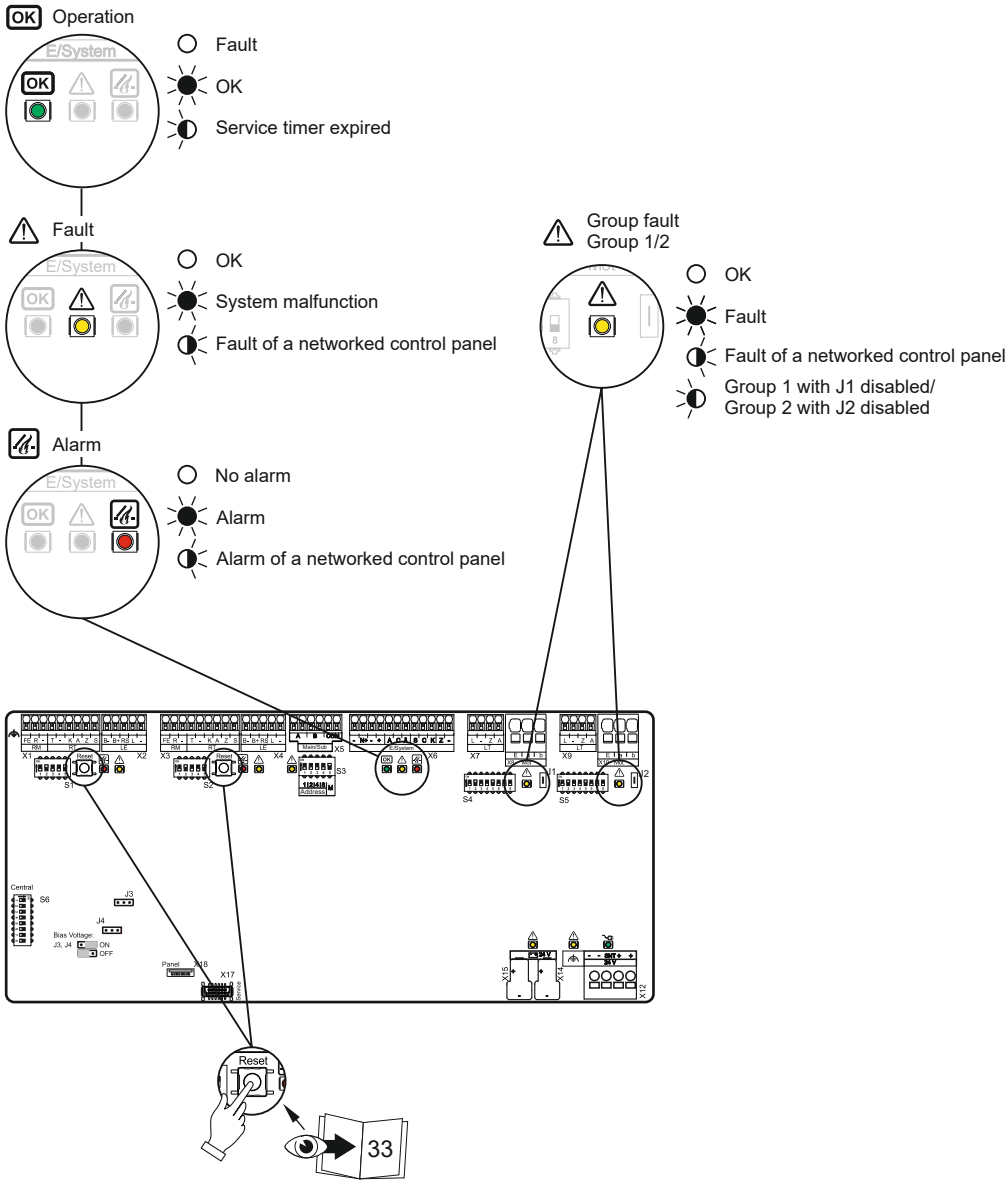
S4,S5 

S6 



DIP switch S4,S5: Group 1, group 2		
SX.1	OPEN - runtime limit	
	ON	The runtime in the OPEN direction can be limited with SCS (default: 30 seconds). If the ventilation button is operated in the OPEN direction, the drives run for as long as the runtime is set.
SX.2	ventilation time limitation	
	ON	After the ventilation time has drained (factory setting: 10 minutes, adjustable via SCS software), the drives close again automatically. **Caution: Danger of crushing!** The drives also close automatically during key operation.
SX.3	OPEN - Retriggering	
	ON	The OPEN running time limit can be retriggered.
SX.4	Storage operation CLOSED	
	ON	The drives move CLOSED by pressing the ventilation button once.
	OFF	The drives only move CLOSED as long as the ventilation button or the "SHEV CLOSED" button in the SHEV button is pressed.
SX.5	Storage operation OPEN	
	ON	The drives move OPEN by pressing the ventilation button once.
	OFF	The drives only OPEN as long as the ventilation button is pressed.
SX.6	CLOSED group on alarm	
	ON	In the event of an alarm, the group moves in the CLOSED direction
SX.7	Group fault equals alarm	
	ON	In the event of a group fault (e.g. interrupted monitoring line), the control panel is switched to alarm, i.e. the smoke vent opens. The DIP switch must be set to ON in connection with a looped-in thermal maximum detector (e.g. THE 4).
SX.8	SHEV retriggering	
	ON	If a drive is blocked in case of an alarm during normally closed contact and shuts down, the drive is restarted every 2 minutes for 30 minutes.
DIP switch S6: General		
S6.1	Central alarm	
	ON	If a line alarm is triggered, the other line is also set to alarm.
S6.2	Mains outage CLOSED	
	ON	If the mains supply fails, the group is automatically activated in the CLOSED direction. **Danger of crushing!** The drives close automatically.
S6.3	LED Test / reset WDT error (**W**atch **D**og **T**imer)	
	ON OFF	Operate the DIP switch (ON/OFF). The LEDs light up for 3 seconds in the control panel.
S6.4	Group line monitoring in STOP	
	ON	Short-circuit monitoring activated in STOP (no warranty for external drives)
	OFF	Short-circuit monitoring in STOP deactivated
S6.5	Operation without battery	
	ON	The charge and monitoring of the batteries is deactivated.
S6.6	LT 1 Bus operation	
	ON	All groups 1 of the networked control panels are controlled.
S6.7	LT 2 Bus operation	
	ON	All groups 2 of the networked control panels are controlled.
S6.8	LT - Central	
	ON	Both ventilation buttons operate both groups

LED description - CPS-P1



LED states

= ▁▁▁▁▁▁▁▁▁▁▁▁

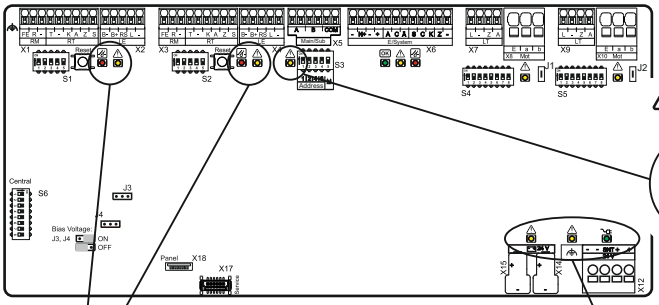
= ▁▁▁▁▁▁▁▁▁▁▁▁ 1 s on / 0,1 s off

= ▁▁▁▁▁▁▁▁▁▁▁▁

= ▁▁▁▁▁▁▁▁▁▁▁▁ 0,1 s on / 1 s off

= ▁▁▁▁▁▁▁▁▁▁▁▁ 0,1 s on / 2 s off

LED description - CPS-P1



Fault
Communication

OK
Fault
Network fault
(not locally affected)

Alarm line 1/2

No Alarm
Alarm
Alarm from a networked control panel
Line blocked by alarm lock/
Reset when alarm is pending

Fault line 1/2

OK
Fault
Fault of a networked control panel
Line switched off

Battery fault

OK
Fault
Fault of a networked
control panel

Earth fault

OK
Fault
Fault of a networked
control panel

Mains supply

No mains voltage
Mains voltage

LED states

= ____

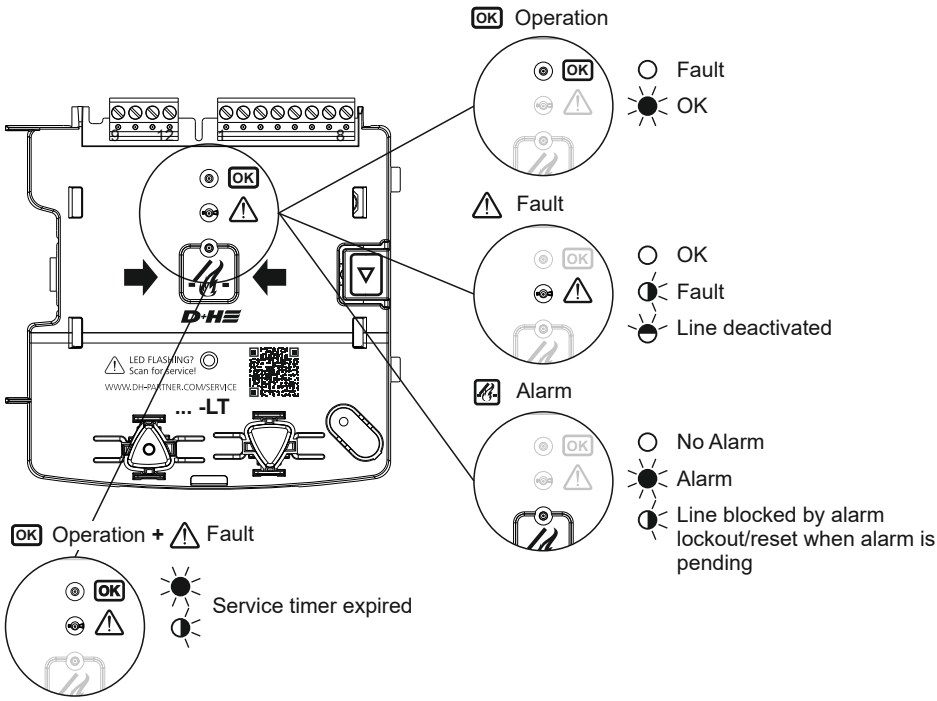
= 1 s on / 0,1 s off

= ____

= 0,1 s on / 1 s off

= 0,1 s on / 2 s off

LED description - RT 46



LED states

= ▁▁▁▁▁▁▁▁▁▁▁▁

= ▁▁▁▁▁▁▁▁▁▁▁▁ 1 s on / 0,1 s off

= ▁▁▁▁▁▁▁▁▁▁▁▁

= ▁▁▁▁▁▁▁▁▁▁▁▁ 0,1 s on / 1 s off

= ▁▁▁▁▁▁▁▁▁▁▁▁ 0,1 s on / 2 s off

Cables for D+H smoke an heat vent systems

When selecting and installing the cables, the regional electrical installation regulations concerning wiring systems and the necessary safety equipment, or guidelines on integrity maintenance of electric lines are observed (e.g. MLAR).

Notice:
No type designation is given for these cables, because of a large variety on the market. Please consult your D+H partner.

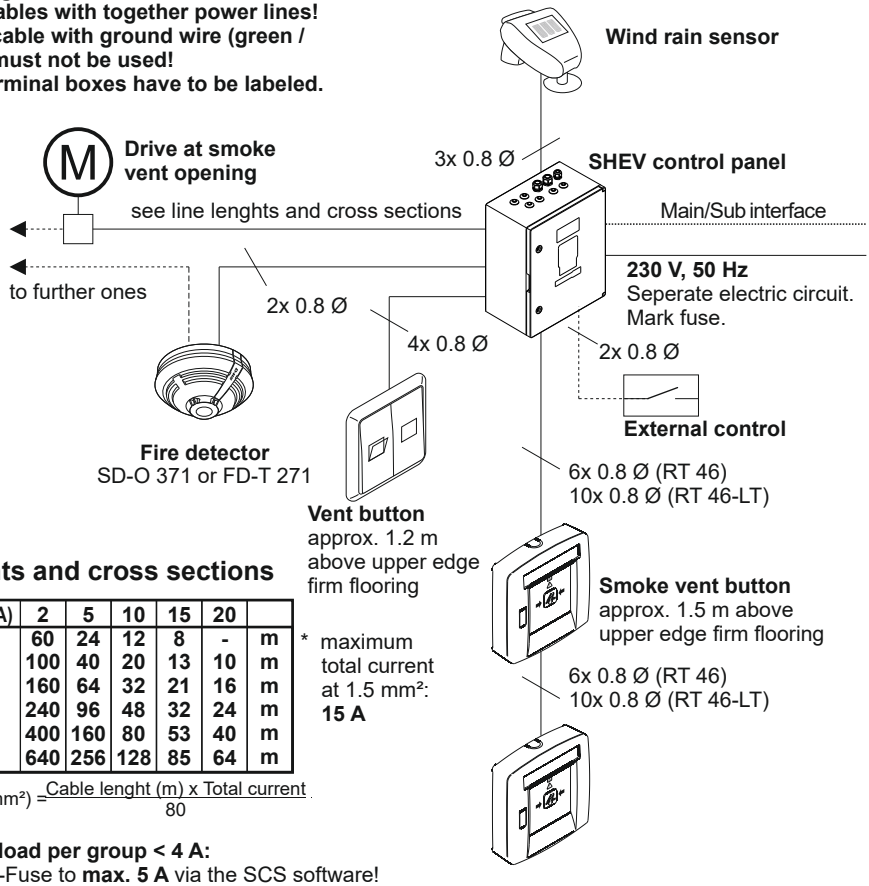
Line cable (control panel - detector)
The cables are monitored for short circuit and for interruption. If line DIP switch S1.3/2.3 is ON, the group will in case of a fault automatically triggered and opens.

Group cable (control panel - drive)
At least three wire design:
- 2 wires for the supply of the drive
- 1 wire for line monitoring, on which also the SHEV high speed (HS) signal is transmitted to the drive. If group DIP switch 4.7/5.7 is ON, the group will in case of a fault automatically triggered and opens.

Cable communication (control panel - control panel)
- For the bus cable, use at least one shielded, four-core, twisted pair cable with an internal cable diameter of at least 0.8 mm
- Use a twisted pair of wires for the data transmission line (terminal A, B).

Wiring diagram (sample)

System voltage 24 V!
Do not run cables with together power lines!
In case of a cable with ground wire (green / yellow) this must not be used!
Cable and terminal boxes have to be labeled.



Line lenghts and cross sections

Total current (A)	2	5	10	15	20	
1.5 mm² *	**60**	**24**	**12**	**8**	**-**	**m**
2.5 mm²	**100**	**40**	**20**	**13**	**10**	**m**
4.0 mm²	**160**	**64**	**32**	**21**	**16**	**m**
6.0 mm²	**240**	**96**	**48**	**32**	**24**	**m**
10.0 mm²	**400**	**160**	**80**	**53**	**40**	**m**
16.0 mm²	**640**	**256**	**128**	**85**	**64**	**m**

* maximum total current at 1.5 mm²: **15 A**

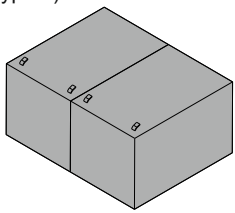
$$\text{Cross section}(mm^2) = \frac{\text{Cable lenght (m)} \times \text{Total current}}{80}$$

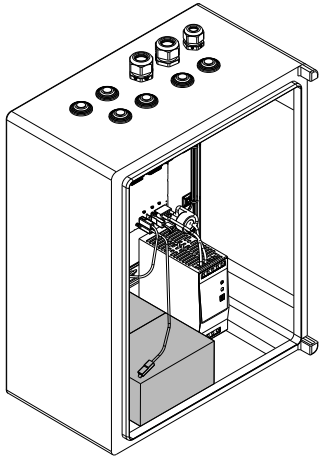
With load per group < 4 A:
Set E-Fuse to **max. 5 A** via the SCS software!

24 V - Emergency supply

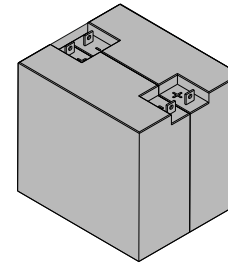
Emergency power supply for 72 hours.
Use VdS approved storage batteries only!

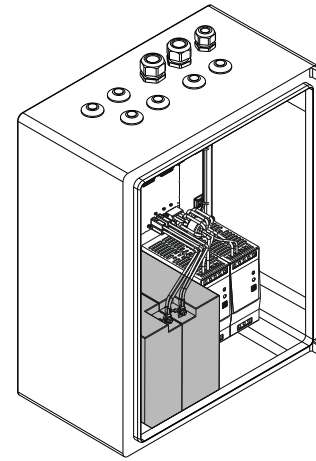
CPS-P1-020-0202(-B):
2x 12 V / 12 Ah ±0,3Ah
(Battery type 4)



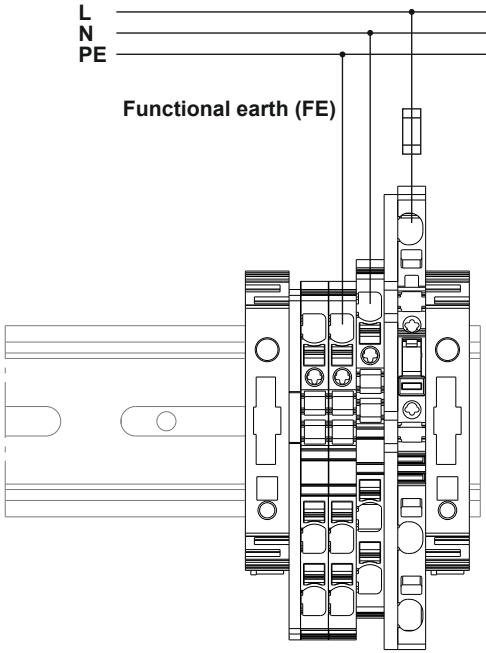


CPS-P1-040-0202(-B):
2x 12 V / 18 Ah ±0,3Ah
(Battery type 5)





230 V - Power supply



230 V, 50 Hz
Seperate electric circuit.
Mark fuse.

DANGER

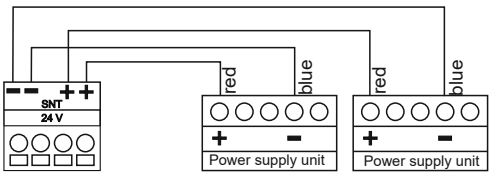
Electric shock!
Working on the live control panel can cause serious injury or a risk of fatal injury.
- Before working on the control panel, disconnect it from the supply voltage andbattery voltage.Disconnect the control panel from the supply voltage and battery voltage before working on it.

Power supply unit connection to control board

20 A Design
Cable cross-section: 2.5 mm²

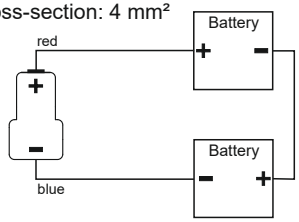


40 A Design
Cable cross-section: 2.5 mm²

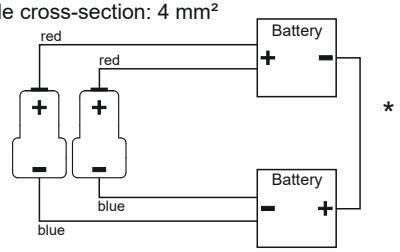


Battery connection to control board

20 A Design
Cable cross-section: 4 mm²



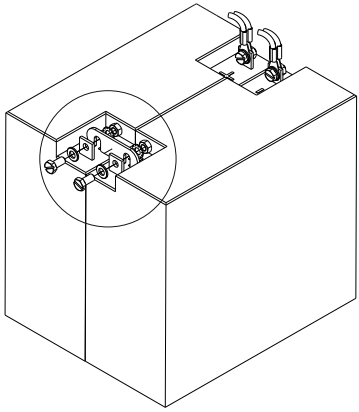
40 A Design
Cable cross-section: 4 mm²



* For installation of the battery bridge, see Fig. A, page 21

Battery bridge

Only for the 40 A design



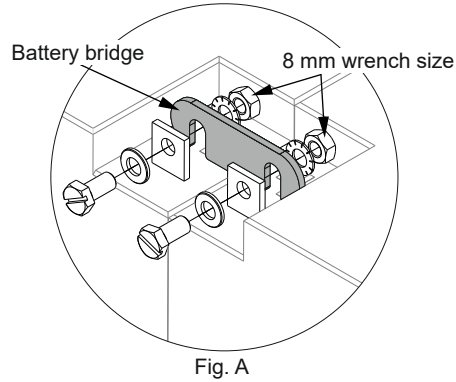
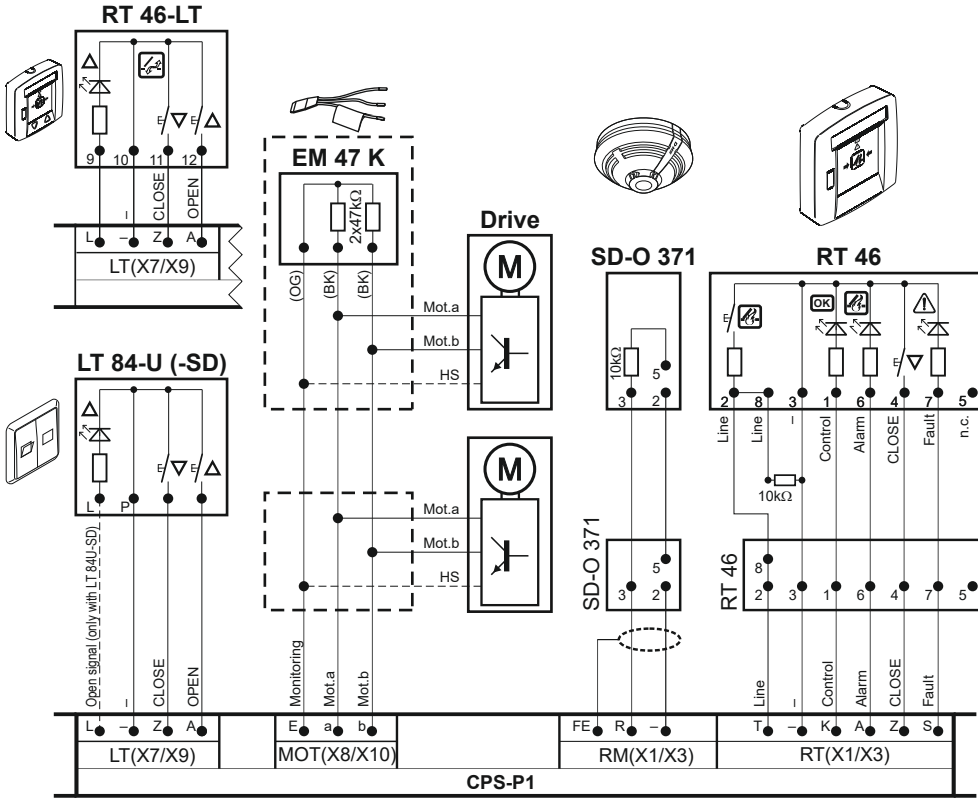


Fig. A

Connection overview

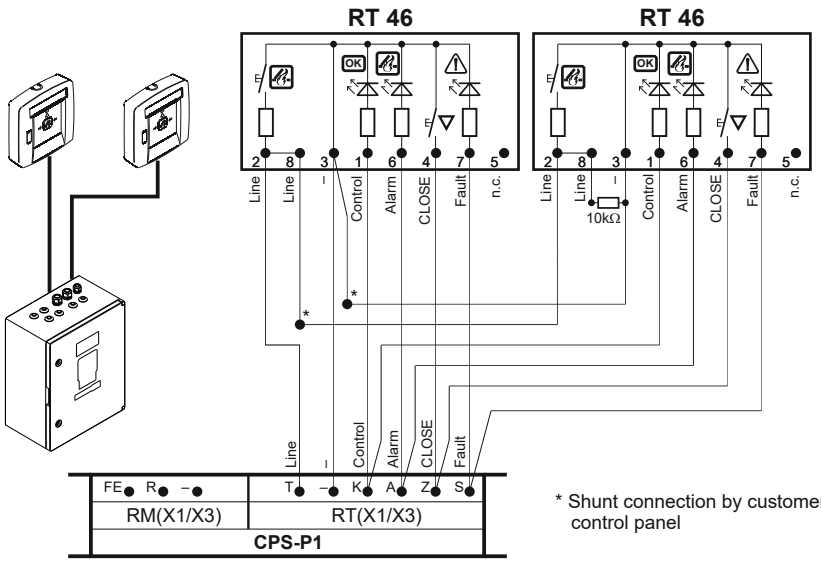


Max. Wire cross-section at the terminals X8/X10: **6 mm²**
Max. Wire cross-section at the terminals X1/X3/X7/X9: **1.5 mm²**

Connection of smoke vent buttons

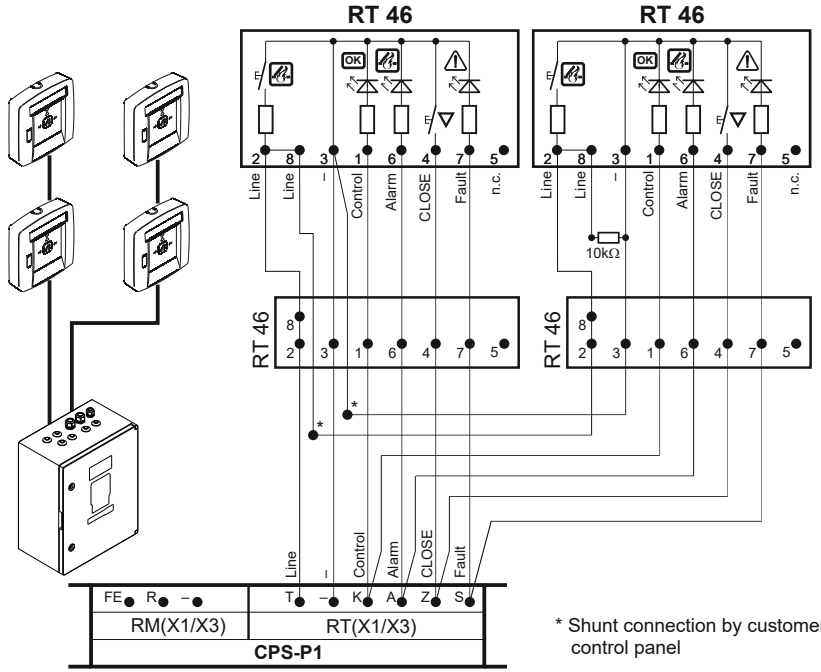
Max. 8 buttons per line connectable.

Parallel connection



* Shunt connection by customer in the control panel

Parallel connection of 2x 2 buttons



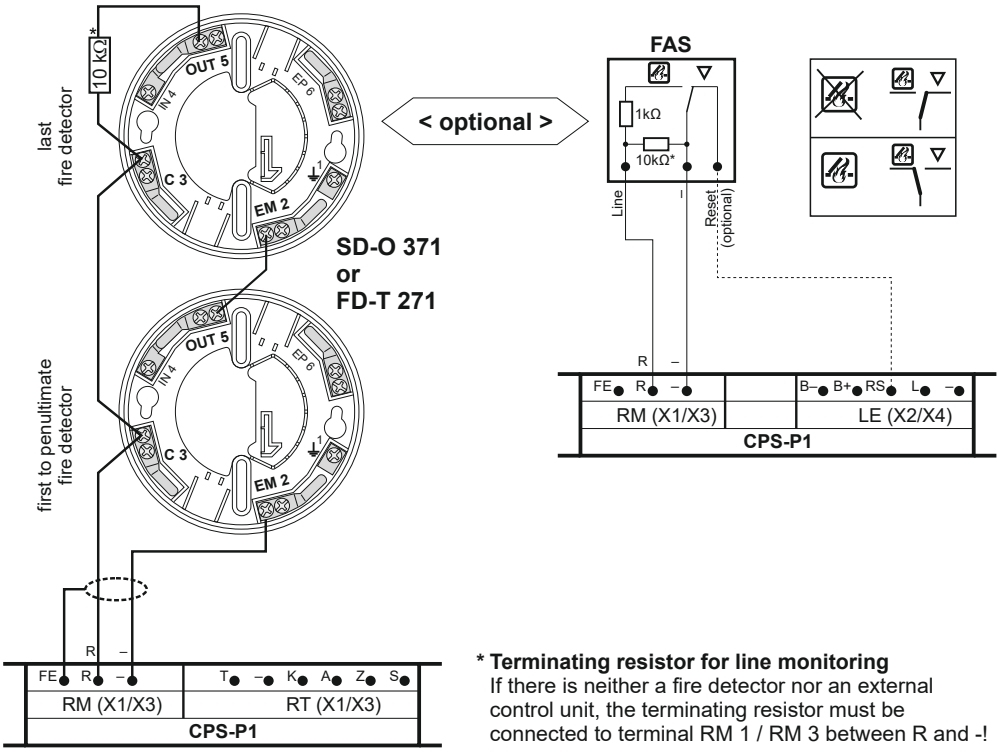
* Shunt connection by customer in the control panel

Connection of fire detector

Max. 14 fire detectors connectable.
Only D+H approved detectors must be used.

Connection of fire alarm system

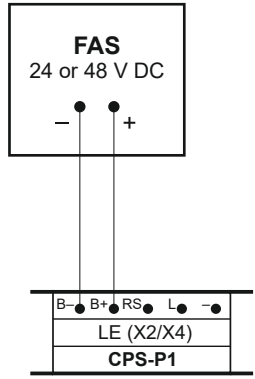
Connection via line socket.
Triggering via switching contact.



*** Terminating resistor for line monitoring**
If there is neither a fire detector nor an external control unit, the terminating resistor must be connected to terminal RM 1 / RM 3 between R and -!

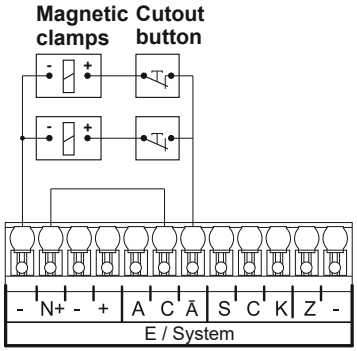
Connection of fire alarm system

Connection via line extension socket.
Triggering via voltage input.



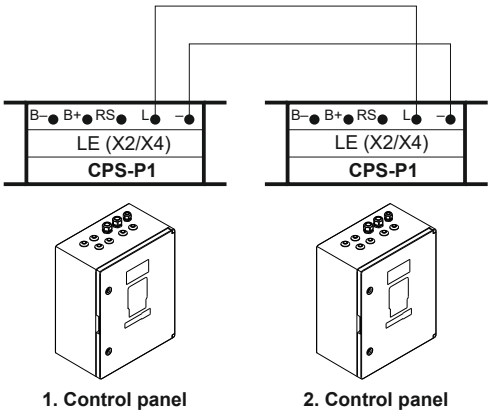
Connection of magnetic clamps

Magnetic clamps 24V (max. 800 mA overall power)
No output voltage during power failure!



Connection of alarm interlock

Country specific function.



Networked operation (only with networked variant)

- Networking of up to 16 control centres in a line topology
- There is always 1 main centre in a network. All other control centres are configured as sub-centres.
- Each sub-centre receives a unique address via a coding switch.
- The main centre receives the number of sub-centres in the network via a coding switch.
- Termination of the network at the first and last control centre with 110 W resistor (see connection diagram).
- Bus biasing: The data bus is biased at one point in the network (usually the main control centre).
- The control centres can be networked without SCS (integration tool for PC).
- A networked system can only be read out at the main control centre.

Notes and information on installation

General:

- Maximum cable length: 500 m
- The bus cable must be laid in a line from control panel to control panel
  - All A and B terminals are connected to each other
- Tip: Use the same cable colours
- Avoid stub lines (maximum length: 1 m)

Shielding of the bus cable:

- The shield of the bus cable is connected inside the control centre for the incoming and outgoing bus cable so that the shield of the entire bus cable is not interrupted. These connection points are not earthed.
- The cable shield is only earthed at any one point (preferably at the end of the bus line).

Termination (Avoidance of signal reflections):

- A 110 W resistor is connected between the A and B terminals at both ends of the bus line (control centres at the start and end of the network) (see connection diagram).

Bus biasing:

- The network cable is bus-biased for the operation of the network.
- The bus bias voltage is only coupled to a single control panel. The Main control panel, for example, is suitable for this.
- To couple the bus bias voltage, the jumpers J3 and J4 on the 3-pole pin headers are plugged into the right-hand position (see wiring diagram).

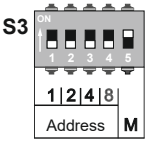
Tip:

- Identification of the main control panel clearly visible from the outside of the building. This makes it easier to find later.
- Note the installation location and address of each control panel in a list and keep this list in the main control centre.

Setting the addresses

Setting the number of subs on the main control panel:
To configure a control panel as a main control panel, the coding switch S3.5 must be set to ON.The number of subs is set via coding switches 1-4. The number of subs is set between 1-15 and is calculated by adding the values of the dipped switches. The value of the individual coding switches can also be read directly from the circuit board.

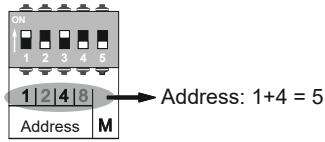
Setting the address on the subs:
The address is set using coding switches 1-4. The address range is 1-15. The address is formed by adding the values of the dipped switches. The value of the individual coding switches can also be read directly from the circuit board.



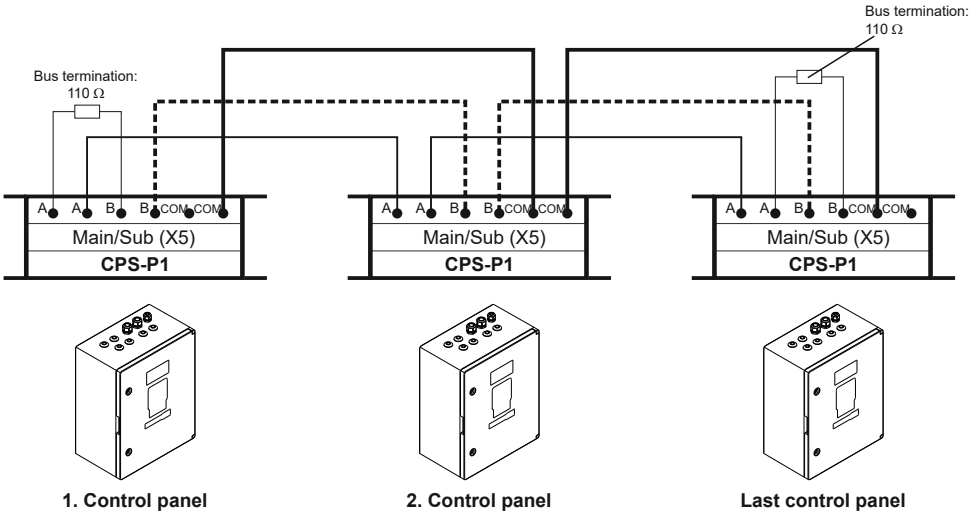
DIP Switch 1 ... 4	Adr.
	1
	2
	3
	4
	5
	6
	7
	8

DIP Switch 1 ... 4	Adr.
	9
	10
	11
	12
	13
	14
	15

Example:
Setting address 5 for a sub-centre



Connection



1. Control panel **2. Control panel** **Last control panel**

Bus bias (only on one control panel, for example on the Main control panel):

Bias Voltage:

J3, J4 ON
OFF

Plug jumpers 3 and 4 into the ON position!

Operation in the network

In general:

- In a network, all lines 1 are linked to each other and all lines 2 are linked to each other. If a local line is triggered, the alarm is distributed to all associated lines within the network. This also applies to ventilation buttons 1 and 2, which are assigned to groups 1 and 2 respectively.
- In the event of a local line or group fault, the fault is distributed to the linked components in the network. Each smoke vent button used therefore always displays the correct system status (alarm, fault, OK).
- Local faults (e.g. line, group, battery, earth fault, communication) are also distributed in the network. These faults are displayed on all control panels in the network by flashing LEDs. However: The control panel that is directly affected by a fault or an alarm locally indicates this by permanently illuminated LEDs.
- Resetting an alarm:
  - Operation of a local reset button
  - Operation of the reset button on a smoke vent button connected to any control panel in the network.
- The central CLOSED signal is distributed in the network and affects every group.

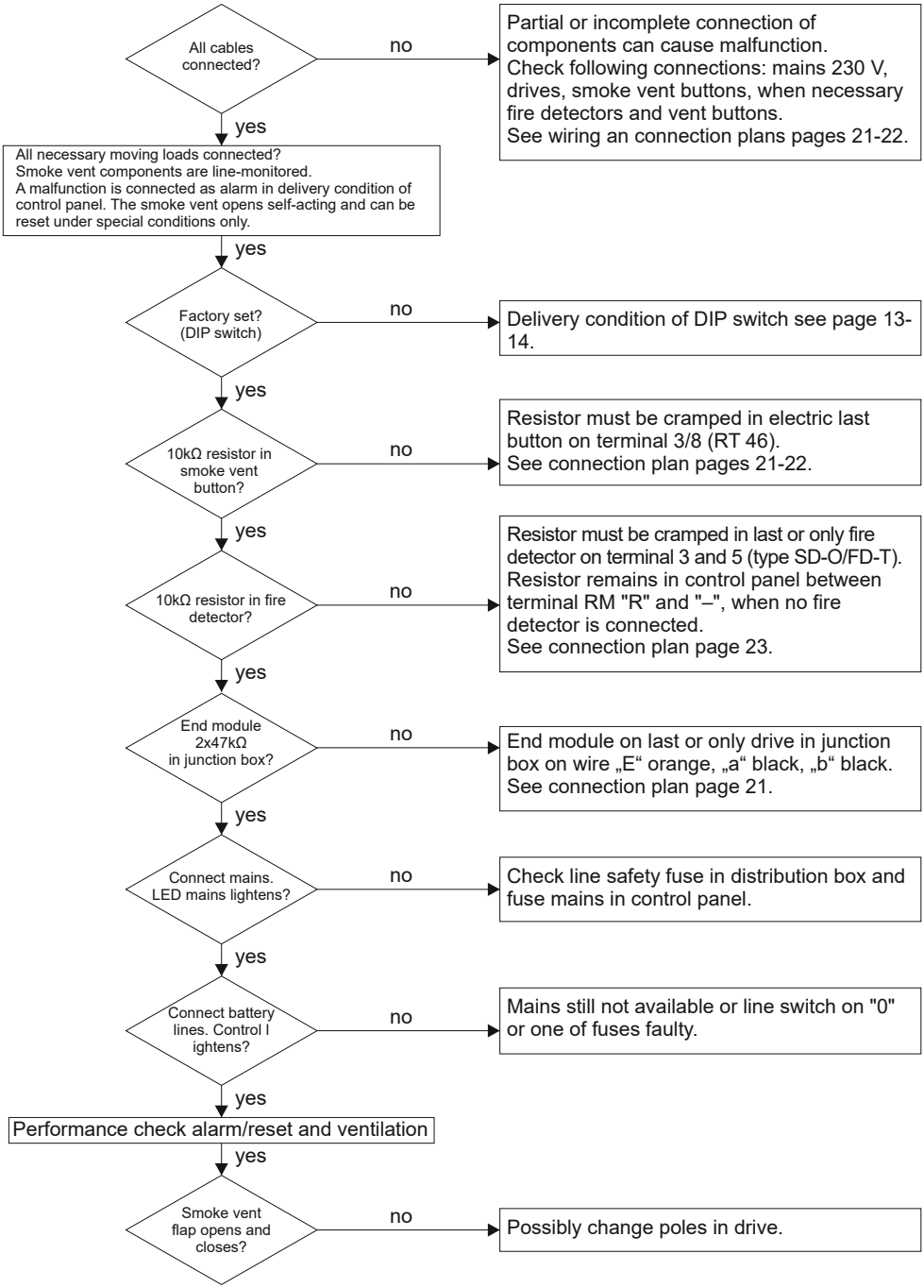
Exceptions:

Individual lines and ventilation buttons can be disconnected from the network and operate locally and only for themselves:

- Bus operation is deactivated for lines 1 and 2 via coding switches S1.5 and S2.5.
- Bus operation is deactivated for ventilation buttons 1 and 2 via coding switches S6.6 and S6.7.

Information for starting

Carry out following sight and performance checks for switching-on the smoke and heat vent control panel.



Inspection

Regular visual inspection between maintenance by the operator or a trained person. Immediately correct any defects.

Indicators:
- **Green LEDs** in the buttons must **illuminate**.
- **Yellow LEDs** in the buttons and the control panel are **not allowed to illuminate or flash** (fault).
- If the green LEDs do not illuminate or if the yellow LEDs illuminate or flash, contact After Sales service.

Examination:
- Check all appliances and cable connections for outer damage and dirt accumulation.
- Fire detectors, smoke vent buttons, smoke vents and so on must not be impaired in their function by goods in storage or structural changings.

Maintenance

Once a year by a specialist company, who is authorized by the appliance manufacturer.
Renew test badge, keep log book.

The respective current D+H maintenance instruction is decisive.

D+H authorized expert companies have been specially trained by D+H for carrying out expertly this maintenance, and they get automatically the latest maintenance instructions.

Following tests must be carried out in the course of maintenance:

- Outside examination / inspection of system components
- Checking of all relevant power supply units
- Functional testing of connected system components
- Record of competent carrying-out of maintenance, and designation according to directions

Repair and cleaning

Inspection and maintenance has to be carried out according to D+H maintenance notes. Only original D+H spare parts may be used. Repair is to be carried out exclusively by D+H.
Wipe away debris or contamination with a dry, soft cloth.
Do not use cleaning agents or solvents.

Disposal

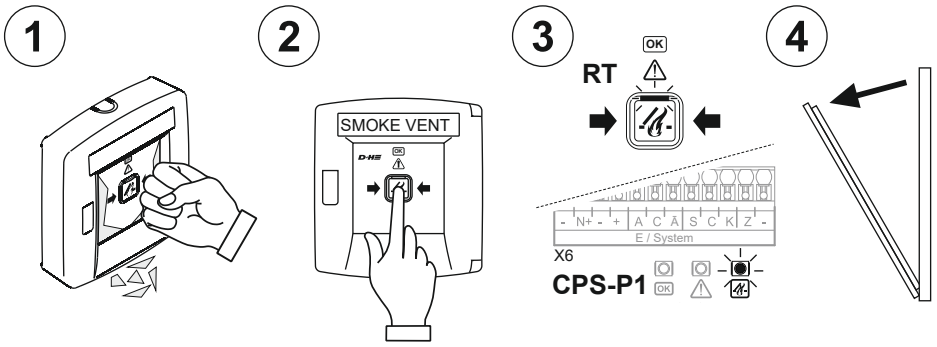
Electrical devices, accessories, batteries and packaging should be sorted for environmental-friendly recycling. Do not dispose electrical devices and batteries into household waste!
Only for EC countries:
According the European Guideline 2012/19/EU for waste electrical and electronic equipment and its implementation into national right, electrcal devices that are no longer usable must be collected separately and disposed of in an environmentally correct manner.



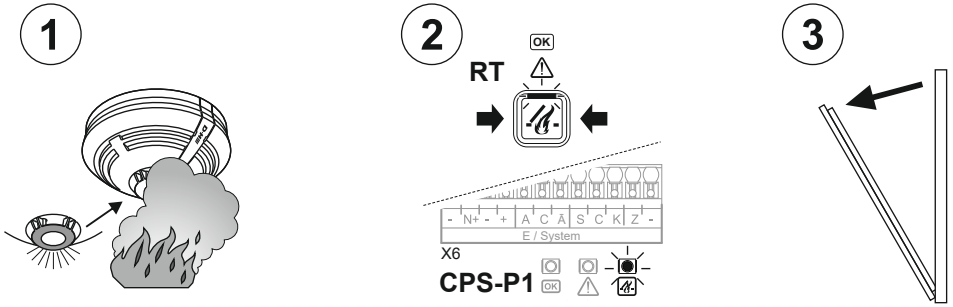


Operation - Release in case of alarm

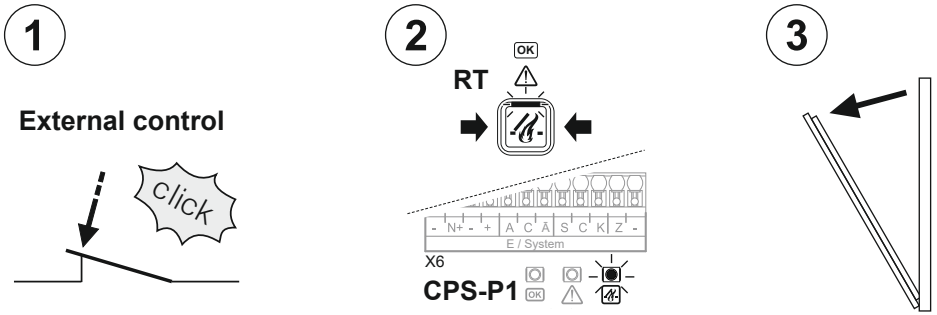
Manual opening by smoke vent button:



Automatic opening by fire detector:



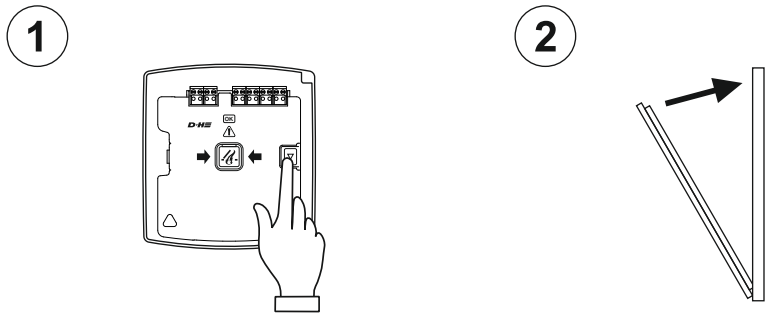
Automatic opening by external control (e.g. fire alarm system):



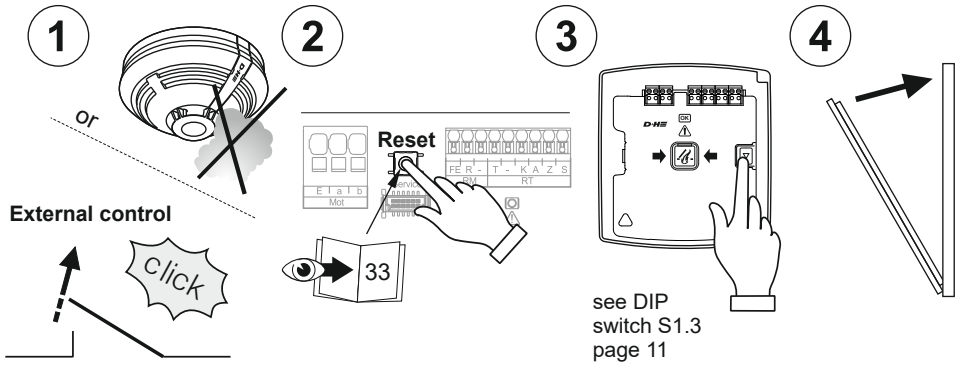
Operation - Closing after alarm

Open the housings (control panel and buttons) using the enclosed keys.

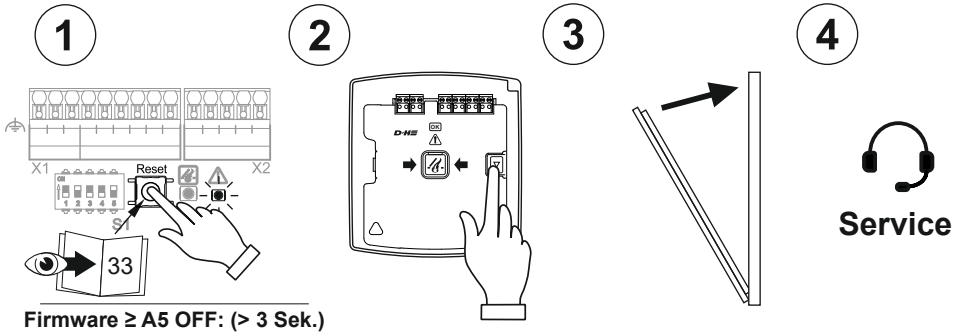
With manual release:



In case of automatic release by fire detector or external control:

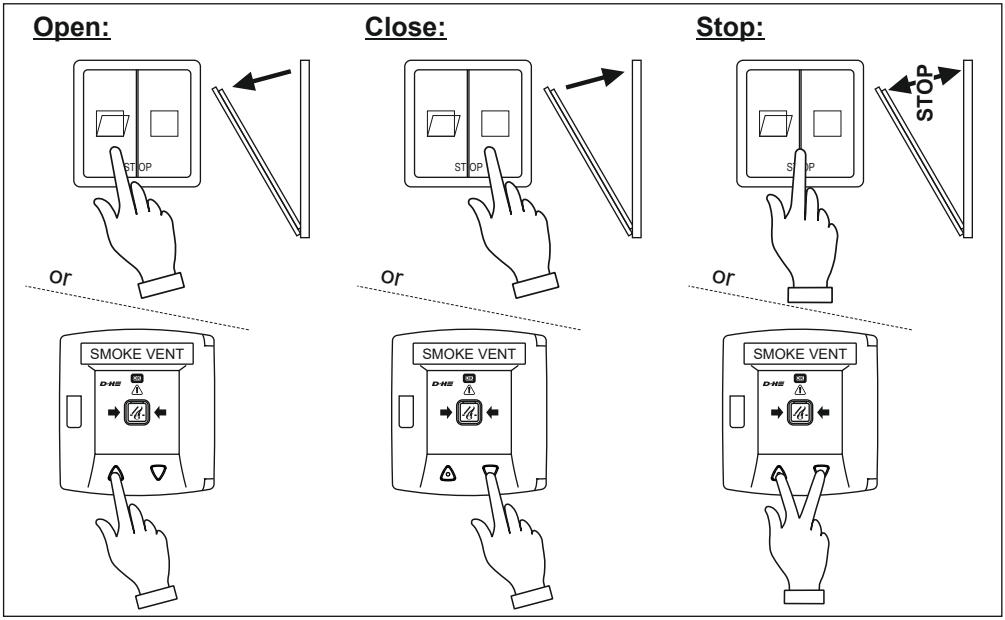


Emergency closing in case of non-resettable alarm:



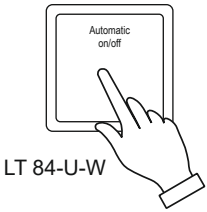
Operation - Day-to-day ventilation

Ventilation button or SHEV button with ventilation function RT 46-LT required.



Operation - Weather automatic

Only if wind detector or rain detector available.
Upon triggering of the corresponding sensor, the group of the control panel is closed.
If alarm is released by a smoke and heat vent system, the system will open also in case of wind and rain.
Do not ventilate via smoke vent button, because otherwise there would be a danger of damage by wind or water.
The weather automatic can be switched-off via an **optional automatic switch**, if gap ventilation is required in case of bad weather.
Gap ventilation is **not possible** in case of **bad weather,** if **no automatic switch available**.
If the weather automatic is switched on , the system will automatically close in case of wind or rain.
The system will not automatically open again, if wind or rain has stopped.
Opening of the system for ventilation via vent button.



LT 84-U-W

Functional description Reset button

Valid from firmware version A5.

Alarm reset / RT-Close:
Press the reset button briefly, in storage operation, the group closes.

Activate line:
Press the reset button briefly if the line was deactivated.

Deactivate line:
Press the reset button for longer than 3 seconds, but less than 6 seconds.

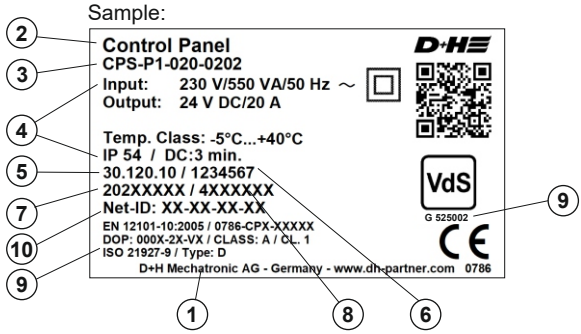
Close the group in key operation mode ‘CLOSED’:
The group closes as long as the reset button is pressed.

The CLOSED signal remains, the line is not deactivated:
Press the reset button for longer than 6 seconds.

Type plate

1- **Name of the manufacturer**
2- **Product name**
3- **Type designation**
4- **Technical data**
5- **Material number**
6- **Lot no.**
7- **Date of manufacture**
8- **Serial number**
9- **Standards and certificate numbers**
10- **Net-ID**

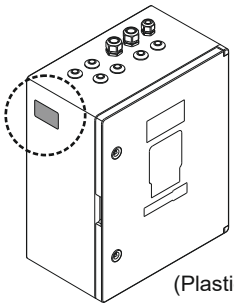
Sample:



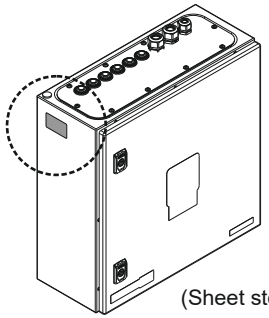
The following notice must be observed:

The SHEV control panel CPS-P1-0X0 is only certified in accordance with the harmonised standard DIN EN 12101-10 in connection with one of the housings listed here. **The certification expires if other enclosure types are used!**

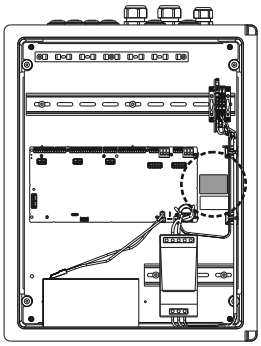
Type plate positions:

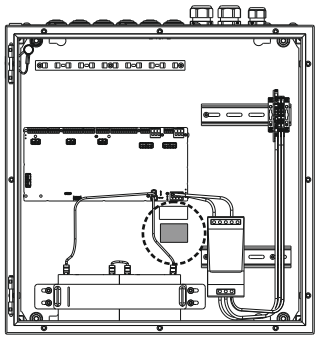


(Plastic)



(Sheet steel)







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