

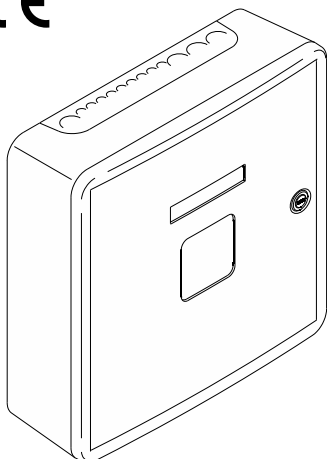


# RZN 4408-K

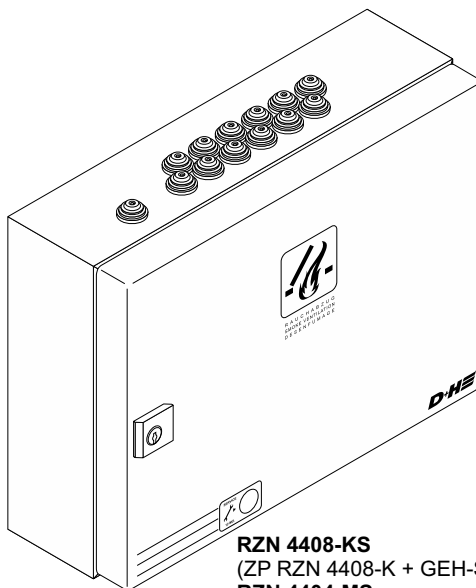
## Original instructions



AdComNet® ready



**RZN 4408-K**  
(ZP RZN 4408-K + GEH-KST)  
**RZN 4404-M**  
(ZP RZN 4404-M + GEH-KST)  
**RZN 4408-M**  
(ZP RZN 4408-M + GEH-KST)



**RZN 4408-KS**  
(ZP RZN 4408-K + GEH-S-RWA)  
**RZN 4404-MS**  
(ZP RZN 4404-M + GEH-S-RWA)  
**RZN 4408-MS**  
(ZP RZN 4408-M + GEH-S-RWA)



G 506001  
Anerkennungs-Nr.  
approval-no.



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**EN 12101-10 : 2005/AC:2007**  
conform



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Zertifikat-Nr.  
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2265/2014



CNBOP-PIB  
2921/2014



AT-0401-0382/2013

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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

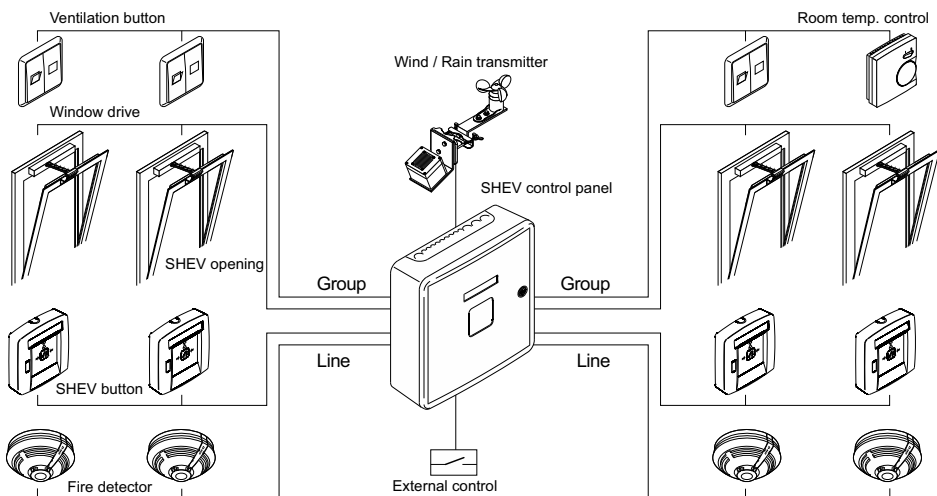
With the network of our own subsidiaries and exclusive partners, we are represented nearly all over the world.

Are you looking for your local D+H partner?

Simply visit our website:

[www.dh-partner.com](http://www.dh-partner.com)

## Assembly scheme



## Intended use

- SHEV control panel for small up to medium sized building objects
- Applicable in the AdComNet® SHEV bus system
- Microprocessor based control panel
- 1 or 2 lines, 2 or 3 groups
- 4 A or 8 A actuating current
- Comfort functions for daily ventilation
- Only for inside mounting

## 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](http://www.rwa-heute.de)**.

The SHEV opening should be coordinated with the responsible fire protection authority.

## Important 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.

## Declaration of Conformity

We declare under our sole responsibility that the product described under "Technical Data" is in conformity with the following directives:

2014/30/EU, 2014/35/EU, EU 305/2011

Technical file at:

D+H Mechatronic AG, D-22949 Ammersbek

Dirk Dingfelder  
Member of the Board

15.08.2016

Maik Schmees  
Authorized signatory,  
Technical Director

## 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
- Only for inside mounting
- Just use unchanged original D+H parts

## 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 and the green LED (D6) in the control panel 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.***

## 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.

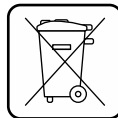
## Disposal

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, electrical devices that are no longer usable must be collected separately and disposed of in an environmentally correct manner.



## Technical data

Type	ZP RZN 4404-M	ZP RZN 4408-K	ZP RZN 4408-M
Power supply Rated power Stand-by operating	230 V AC, 50 Hz 120 VA 6,8 W	230 V AC, 50 Hz 240 VA 4,5 W	230 V AC, 50 Hz 240 VA 5 W
Output voltage Ripple	24 V DC < 2 Vss		
Output rated current Number of lines / groups* Fire detector per line SHEV button per line Current per group**	4 A 2 / 2 max. 14 pcs. max. 8 pcs. max. 4 A	8 A 1 / 2 max. 14 pcs. max. 8 pcs. max. 8 A	8 A 2 / 3 max. 14 pcs. max. 8 pcs. max. 8 A
Mode of operation - Monitoring - Alarm / ventilation Temperature range	continuous duty short-time duty (30 % DC) -5 ... +40°C		

\* D+H Highspeed (HS) drives will be supported.

\*\* The total current of the control panel must not be exceeded.

Housing Material Colour Ingress protection Protection class Dimensions WxHxD	<b>GEH-KST</b> plastic with steel sheet door white IP 30 II, with functional ground 310 x 310 x 100 mm	<b>GEH-S-RWA</b> steel sheet light grey IP 54 I 400 x 300 x 120 mm
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## 24 V - Emergency supply

Emergency power supply for 72 hours.

**Use VdS approved storage batteries only!**

RZN 4404-M(-MS): 2x 12V / 2,2 Ah  $\pm$ 0,2Ah (Type 2)

RZN 4408-K(-KS): 2x 12V / 3,4 Ah  $\pm$ 0,3Ah (Type 8)

RZN 4408-M(-MS): 2x 12V / 3,4 Ah  $\pm$ 0,3Ah (Type 8)

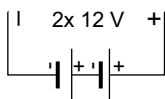
With connection of D+H alarm devices:

RZN 4404-M(-MS): 2x 12V / 3,4 Ah  $\pm$ 0,3Ah (Type 8)

RZN 4408-KS\*: 2x 12V / 7,0 Ah  $\pm$ 0,3Ah (Type 3)

RZN 4408-MS\*: 2x 12V / 7,0 Ah  $\pm$ 0,3Ah (Type 3)

(\* Only with -KS or -MS version possible!)



## Battery control - TID

T Temperature-guided charging of accumulator

I Impedance measuring. Internal resistance of accumulator will be measured cyclically. For example, if a total discharged accumulator is connected to the control panel = malfunction (LED on PCB)

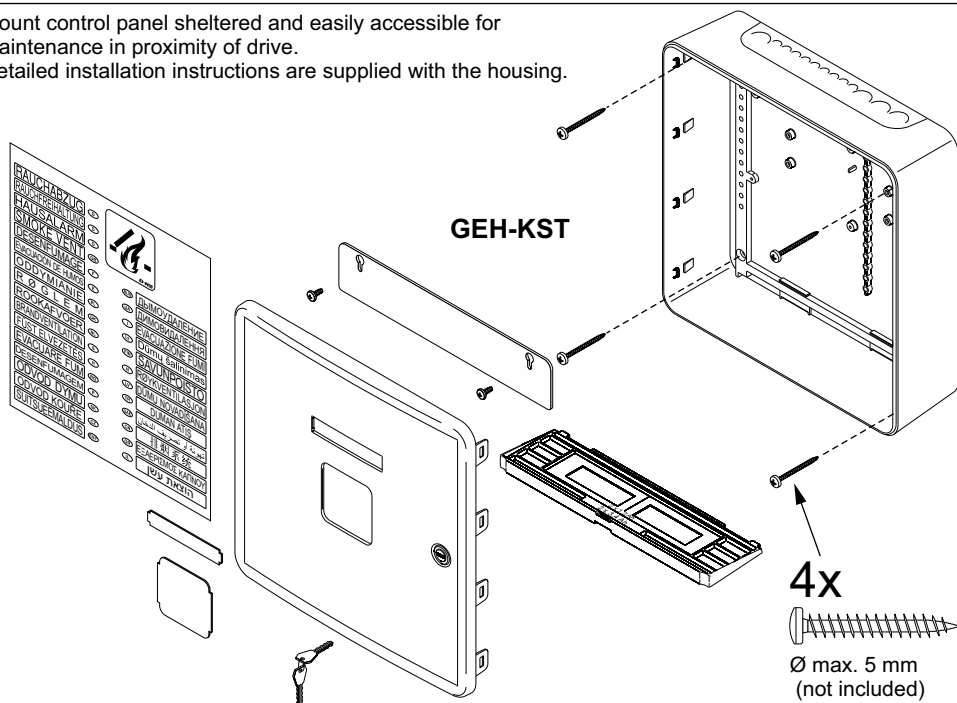
D Discharge control = In case of power failure and total discharge of accumulator, the control panel will switch off. In this case, smoke vent is no longer ensured. In this case a malfunction will be no more indicated either.

## Pictogram explanation

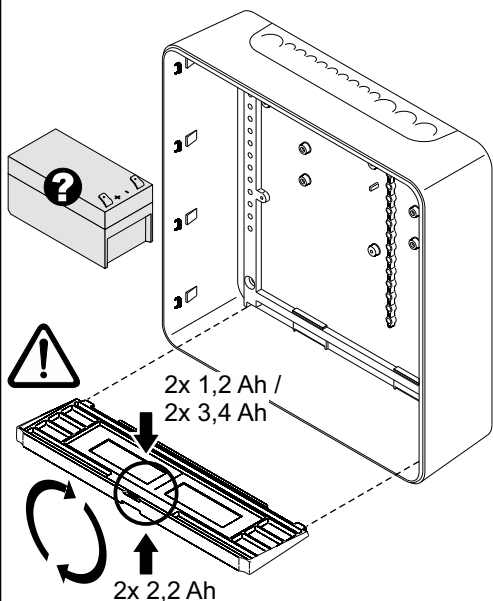
	SHEV alarm
	Malfunction
	Control panel O.K.
	D+H window drive
	Mains existing
	Vent button function "OPEN"
	Smoke-/ vent button function "CLOSE"
	Charging voltage regulator
	Ground short
	OPEN running time limitation
	ventilation time limitation

## Mounting of SHEV control panel with housing GEH-KST

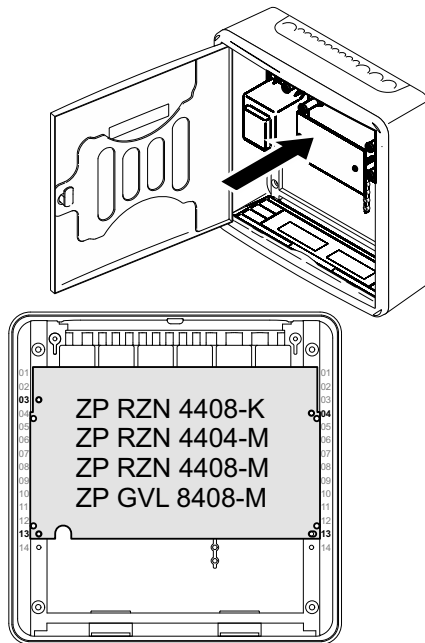
Mount control panel sheltered and easily accessible for maintenance in proximity of drive.  
Detailed installation instructions are supplied with the housing.



### Install batteries:



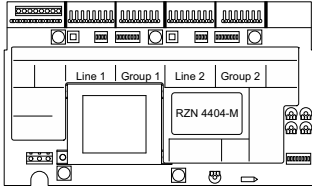
### Position of the central pcb:



## View motherboard

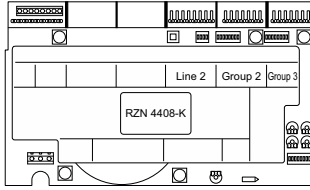
### RZN 4404-M (-MS):

2 lines, 2 groups



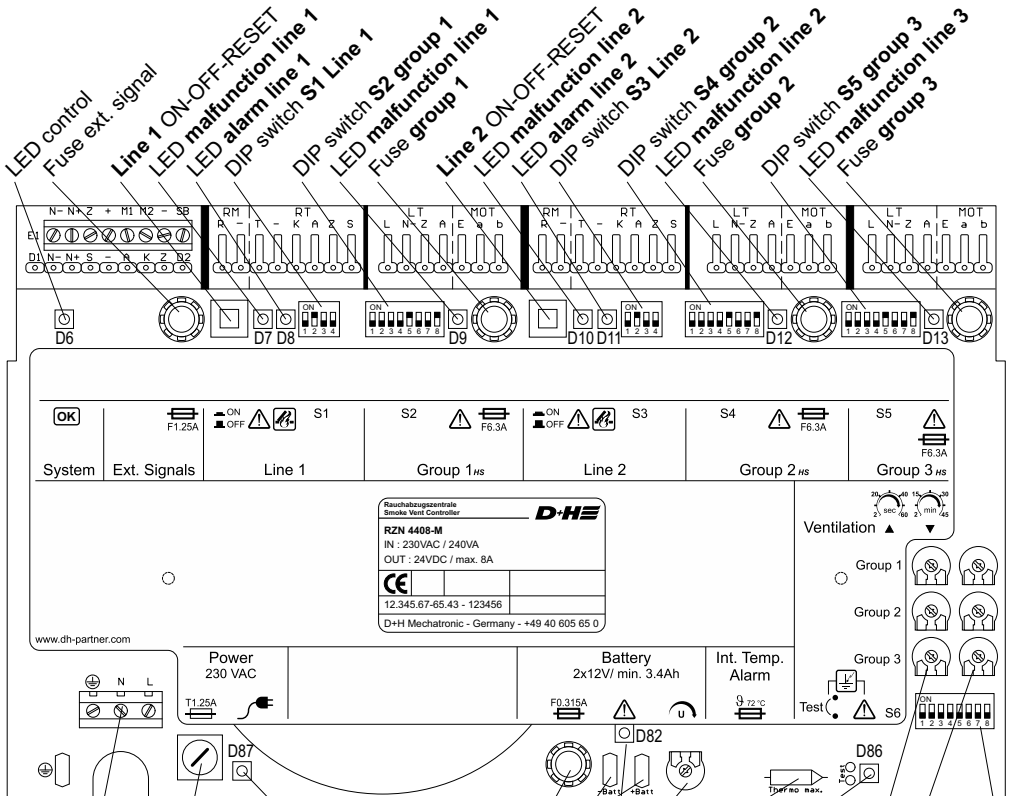
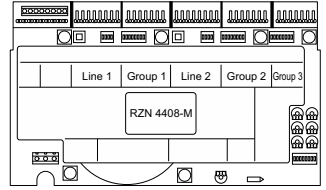
### RZN 4408-K (-KS):

1 line, 2 groups



### RZN 4408-M (-MS):

2 lines, 3 groups



Mains supply

LED mains  
Fuse mains

- : Emergency-supplied potential -
- + : Emergency-supplied potential +
- N- : Not emergency-supplied potential -
- N+ : Not emergency-supplied potential +
- A : General alarm
- K : Control
- S : General fault
- SB : Battery fault
- M1 : Magnetic clamp control by line 1
- M2 : Magnetic clamp control by line 2
- Z : Input, central function, closing of group

- Fuse battery
- Battery connection
- LED battery fault
- Battery charging voltage regulator
- Fire recognition element\*
- LED ground short
- OPEN-running time limitation
- Ventilation time limitation
- DIP switch S6

\* For monitoring of 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.

## Encoding of groups – DIP switches S2, S4, S5

**1 = ON \*** **OPEN-running time limitation in ventilation operation (Only if DIP switch 5= ON).**

Using a potentiometer, running time in OPEN direction can be limited. If the vent button is actuated in OPEN direction, the drive will run open as long as the running time is set.

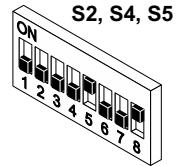


**2 = ON \*** **Ventilation time limitation (Only if DIP switch 4 = ON).**

Using a potentiometer, ventilation time can be set. Drives will automatically close again, after the adjusted time has expired.



Delivery state:



**3 = ON \*** **OPEN-retriggering (Only if DIP switch 1 = ON)**

The OPEN-running time limitation can be retriggered again.

**4 = ON \*** Drives **CLOSE** up to final position **by single pressing** on vent button

**4 = OFF \*** Drives are **closing only so long as** the vent button or the button "close SHEV" in the smoke vent button **is pressed**. OPEN-display on vent button is no longer possible then! The function power failure-CLOSE will be ineffective (see DIP switch S6.3).

**5 = ON \*** Drives **OPEN** up to final position **by single pressing** on vent button.

**5 = OFF \*** Drives will only **OPEN as long as** the vent button **is pressed**.

**6 = ON \*** **Group CLOSE in case of alarm.** The group will be closing in case of alarm!

**7 = ON** In case of a **group fault** (e.g. in case of an interrupted monitoring line) the control panel will be switched on alarm, that means the **smoke vent opens**. DIP switch must be on ON in conjunction with a ground in thermal maximal detector (e.g. THE4).

**8 = ON** **SHEV retriggering on.** The smoke vent is triggered for a duration of 30 minutes in intervals of 2 minutes according to VdS 2581.

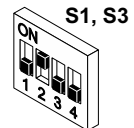
## Encoding of lines – DIP switches S1, S3

**1 = ON** **Two-smoke detectors dependency (Only with SD-O 371/FO 1362)**

Alarm will be triggered only, if at least two smoke detectors of one line respond. False alarm of one smoke detector will be prevented.

**Two smoke detectors in one room** must be always installed. **If only one smoke detector** is connected to one line, **switch must be on OFF!**

Delivery state:



**2 = ON** Smoke detector alarm **can not** be reset by single pressing on the button "close SHEV" in the smoke vent button.

**2 = OFF** Smoke detector alarm **will be** reset by pressing on the button "close SHEV" in the smoke vent button.

**3 = ON** In case of a **line fault** (e.g. at an interrupted detector line or short circuit) the control panel will be switched on alarm, that means **the smoke vent opens**.

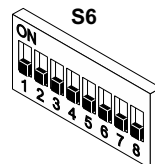
**4 =** **idle**

## Encoding of control panel – DIP switch S6

**1 = ON \*** Line 2 on group 3. Line 2 is also effective on group 3.  
**1 = OFF \*** Group 3 is independent of line 2. Group 3 is not monitored!

**2 = ON \*** **Central alarm**  
 In case of alarm of one line, the other line will be set on alarm as well. With the setting Central alarm and only one line connected and with several groups, the fault, for example, at the last group will not be shown at the first line.  
 In this case, fault and control must be set at the E-slot.  
 (No indication of the servicetimer in the smoke vent button.  
 See page 20)

**Delivery state:**



**3 = ON** **Power failure "CLOSE"** (Only if DIP switch S2.4, S4.4, S5.4 = ON).  
 In case of power failure the drives will close.

**4 = ON** **AdComNet Bus Control**  
 When using the control panel **within an AdComNet network** (in conjunction with the connection module ACN-CM 501) the switch must be on ON.  
**4 = OFF** When using the control panel **without an AdComNet** connection..

**5 =** idle

**6 = ON** **LED Test / Reset WDT Fehler (Watch Dog Timer)**  
 Actuate DIP switch (ON / OFF). LED's will light up for 3 seconds in control panel.

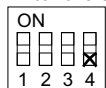
**7 =** idle

**8 =** idle

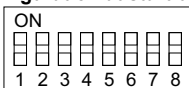
**\*In AdComNet operation (S6.4 = ON) these DIP switches are disabled.**  
 The setting of the functions carried out over the AdComNet software.

## DIP switch settings

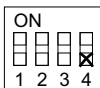
**Enter the configuration at start-up:**



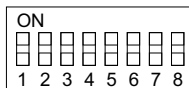
**S1**



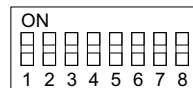
**S2**



**S3**

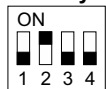


**S4**

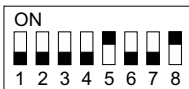


**S5**

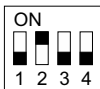
**Delivery state:**



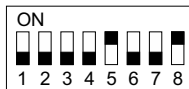
**S1**



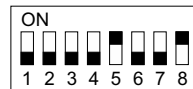
**S2**



**S3**

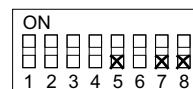
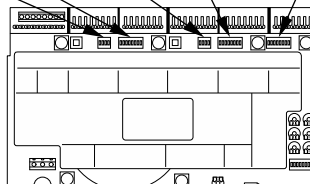


**S4**



**S5**

Type	S1	S2	S3	S4	S5	S6
RZN 4404-M (-MS)	X	X	X	X		X
RZN 4408-K (-KS)			X	X	X	X
RZN 4408-M (-MS)	X	X	X	X	X	X



**S6**



**S6**

## 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.

### 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 7 is ON, the group will in case of a fault automatically triggered and opens.

### Line cable (control panel - detector)

The cables are monitored for short circuit and for interruption. If line DIP switch 3 is ON, the group will in case of a fault automatically triggered and opens.

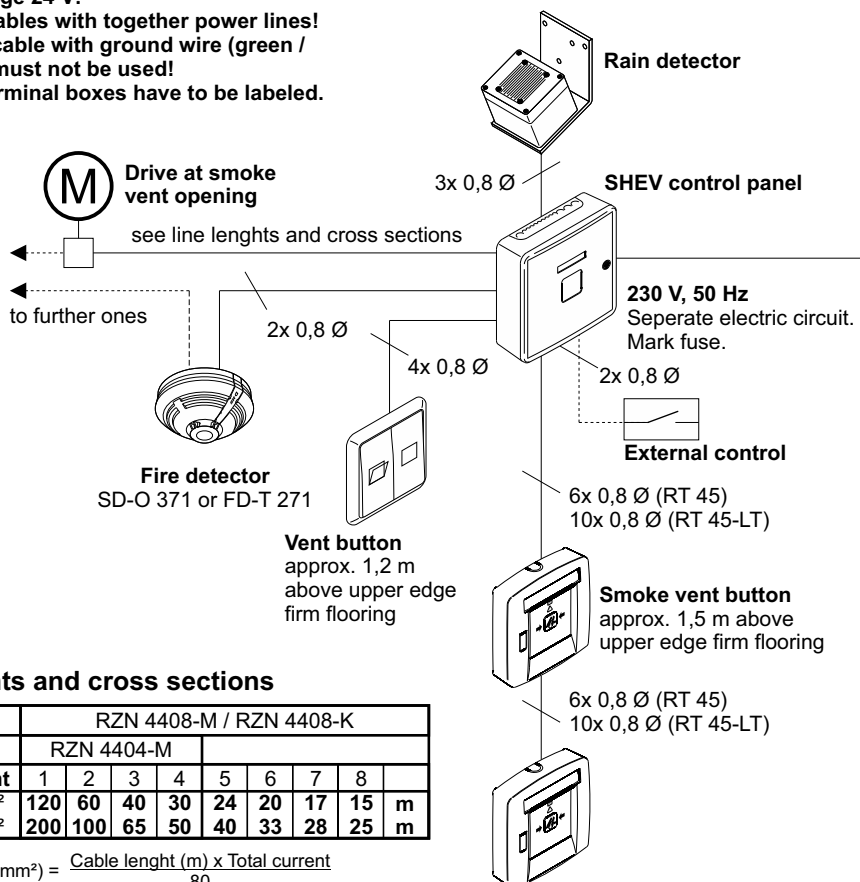
## Wiring plan (Paragon)

### 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.**

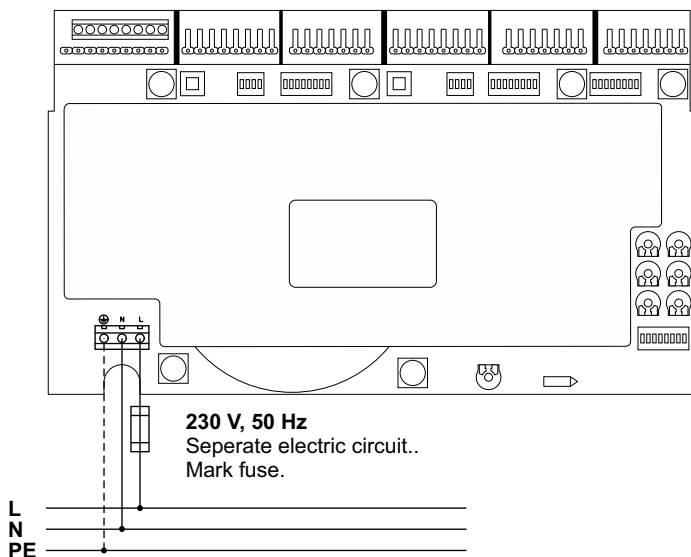


### Line lengths and cross sections

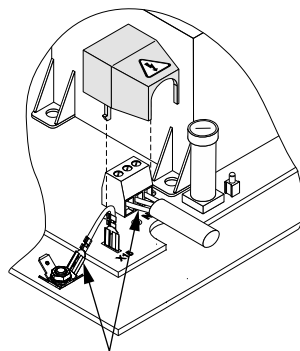
Type	RZN 4408-M / RZN 4408-K								
	RZN 4404-M								
Total current	1	2	3	4	5	6	7	8	
3 x 1,5 mm <sup>2</sup>	120	60	40	30	24	20	17	15	m
3 x 2,5 mm <sup>2</sup>	200	100	65	50	40	33	28	25	m

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

230 V supply

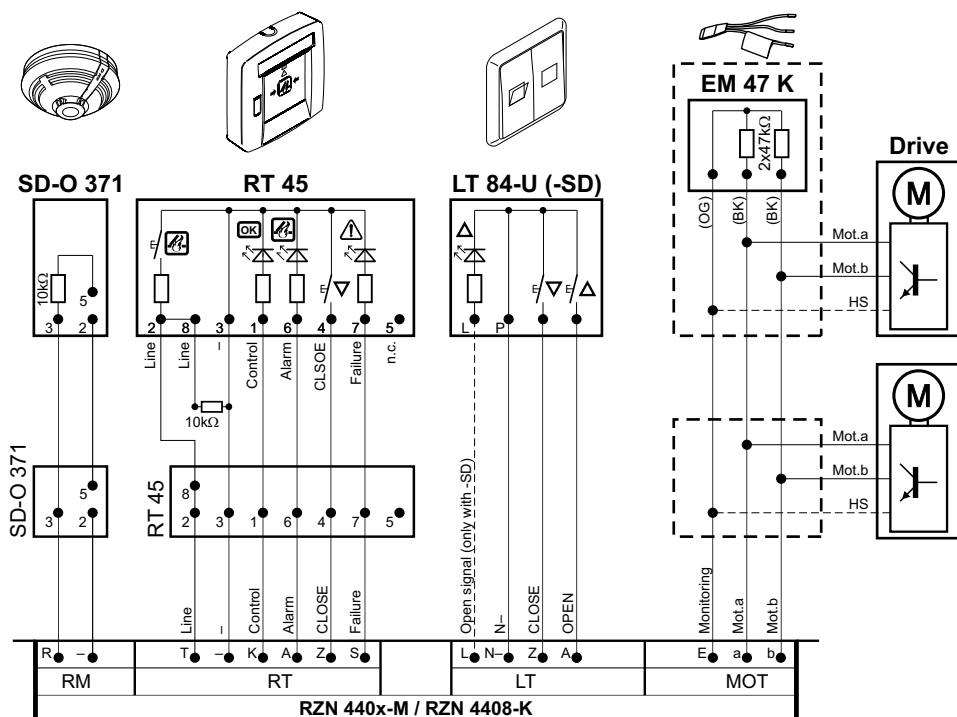


**Protection cap:**  
Place enclosed protection cap  
over supply terminal after mains  
cable has been connected.



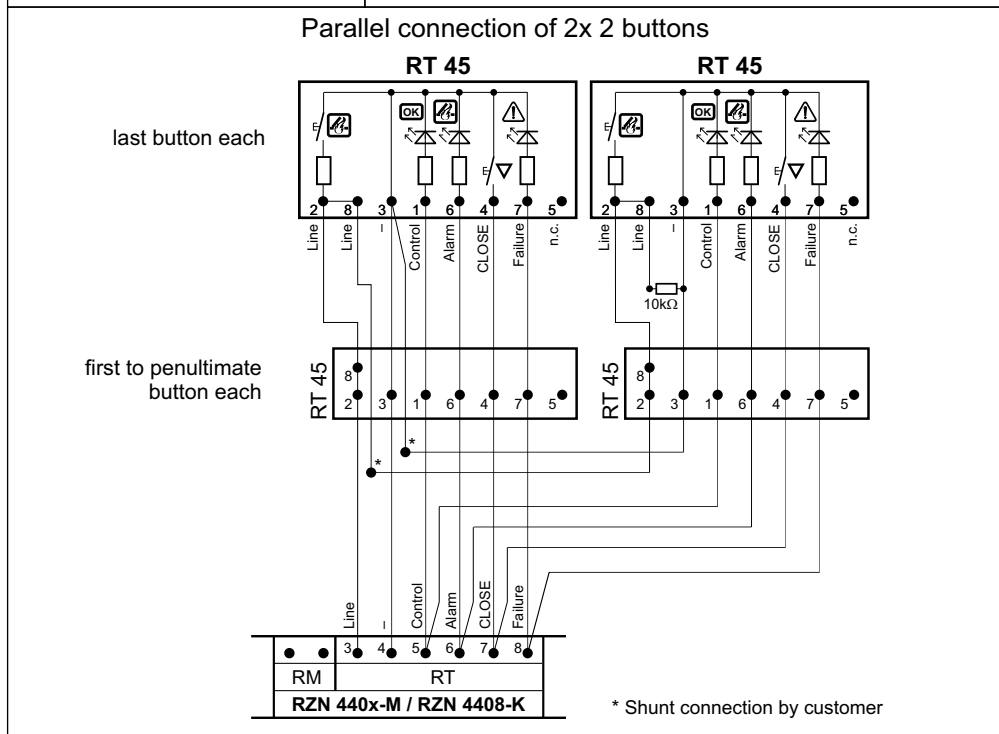
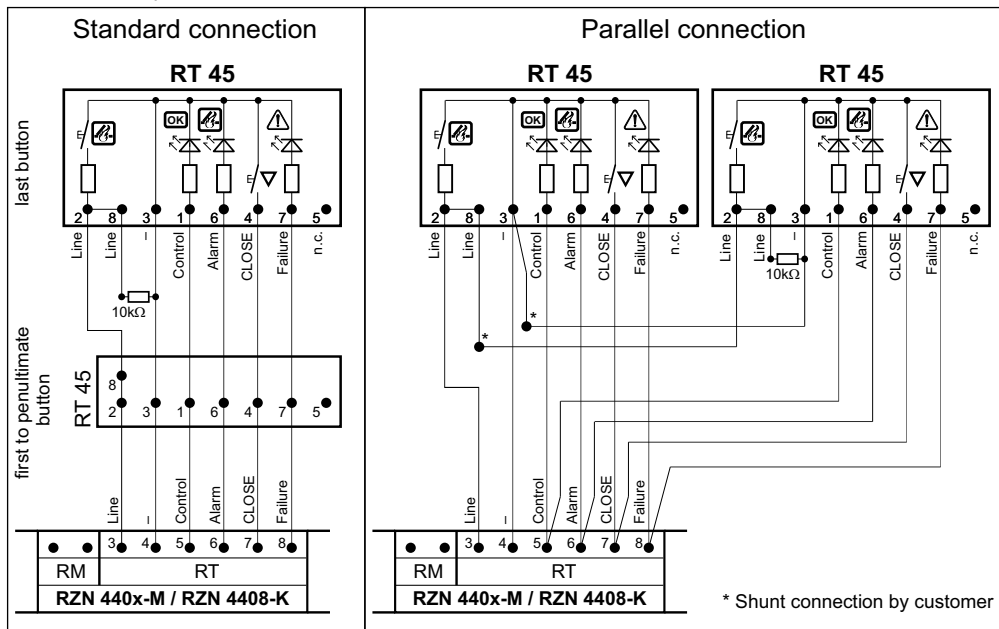
**Protective earth (PE)**  
Only with -KS and -MS Version.

## Connection overview



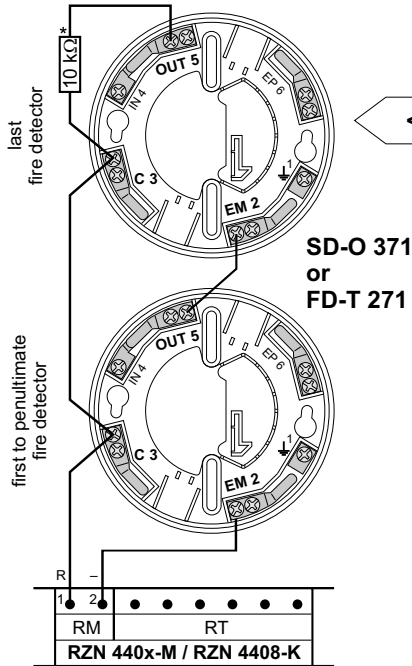
# Connection of smoke vent buttons

Max. 8 buttons per line connectable.



## Connection of fire detector

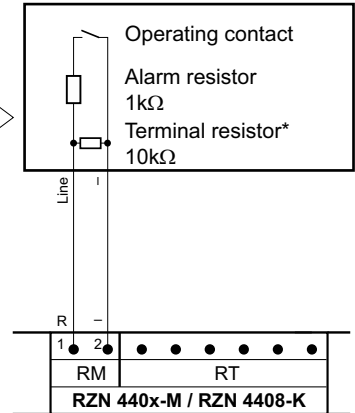
Max. 14 fire detectors connectable.  
Only D+H approved detectors must be used.



< optional >

## Connection of fire alarm system

### BMZ / BMA

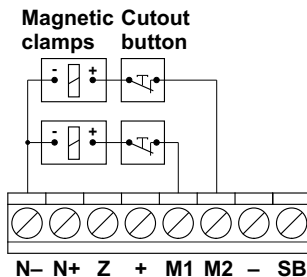


### \* Terminal resistors for line monitoring

It is pinched in control panel for transport.  
Take it off there and connect according to plan.  
Terminal resistor must remain at terminal RM 1,2,  
when no fire detector or external control exists!

## Connection of magnetic clamps

Magnetic clamps 24V (max. 500 mA overall power)  
No output voltage during power failure!



## Drives

### Group output:

While an alert, a possible group disturbance will not notified. Only after reset the alarm, a fault message will be indicated.

### 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:

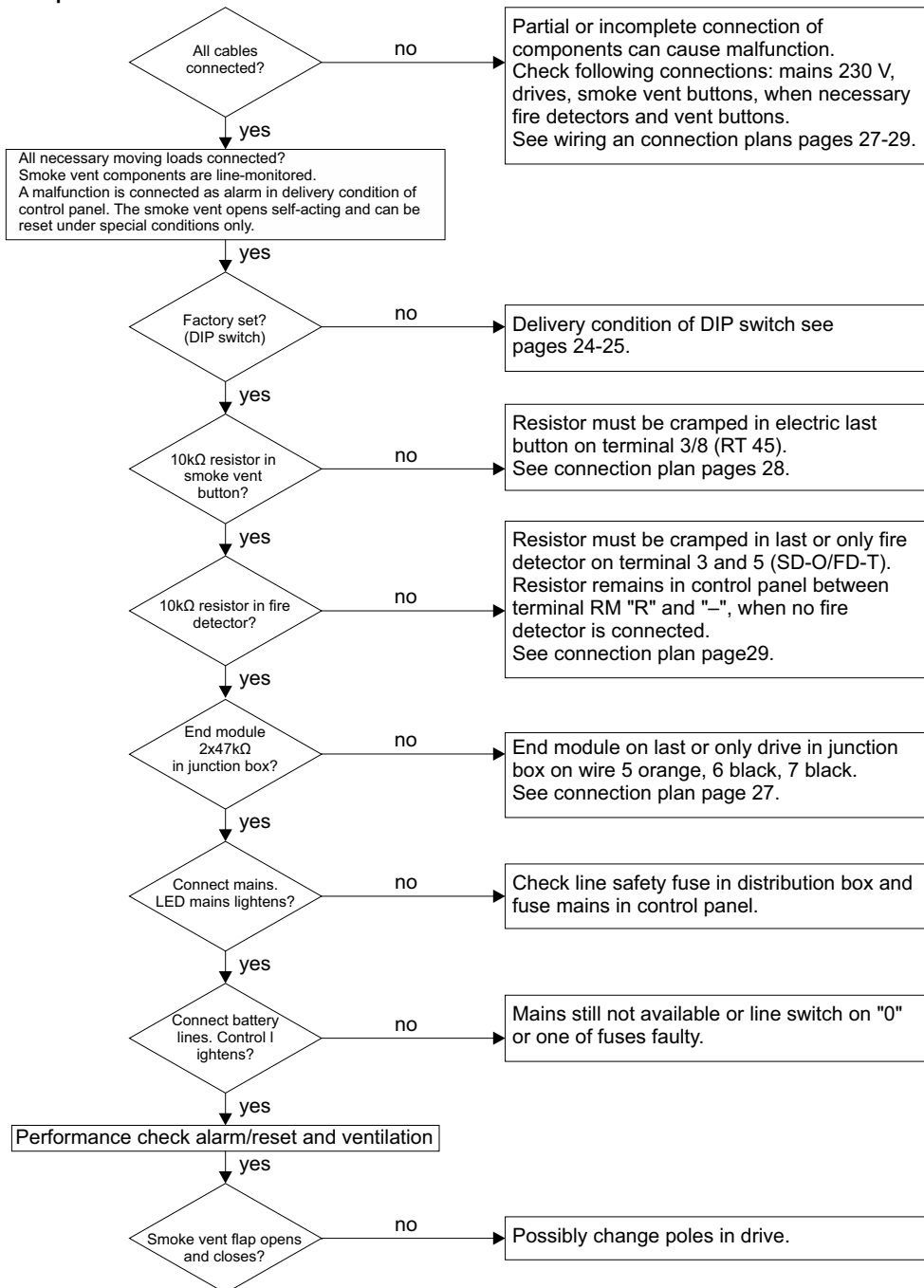
(When DIP switches S2.8 / S4.8 / S5.8 = ON)  
The smoke vents will be triggered with an OPEN-impulse every 2 minutes for a duration of 30 minutes according to VdS 2581. For this, the drives must be blockage safe. All D+H drives meet this precondition. Otherwise the DIP switches has to be switched on OFF.

### 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.

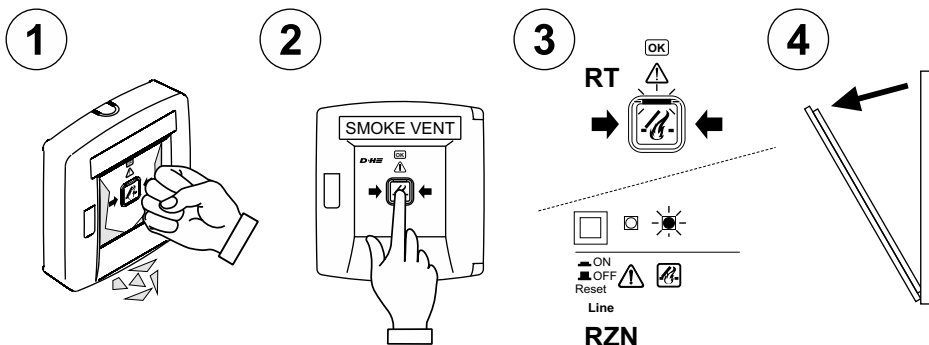
## Informations for starting

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

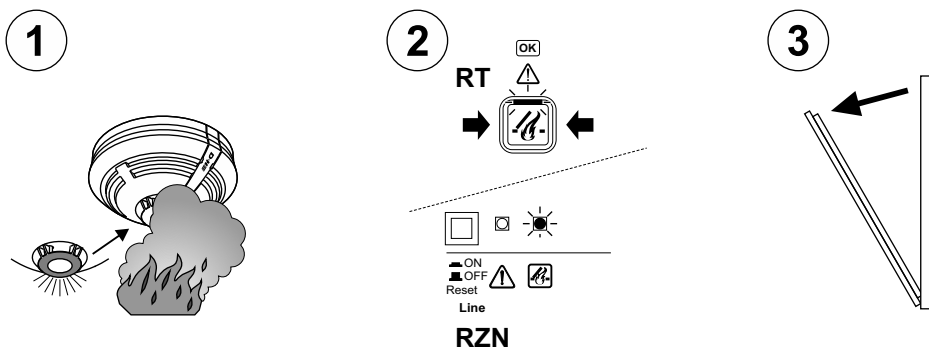


## Operation - Release in case of alarm

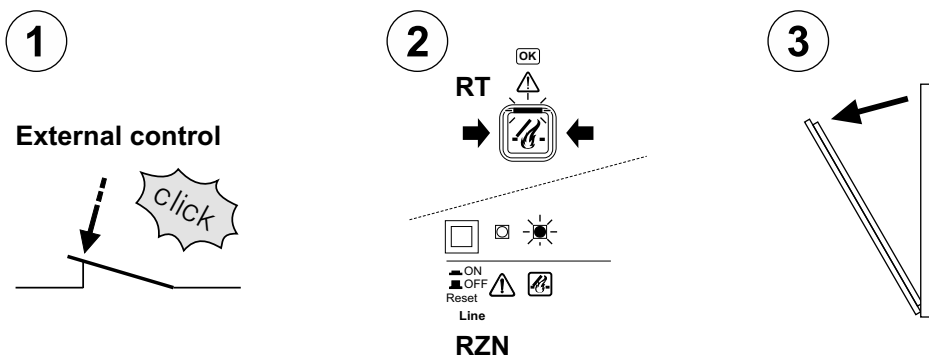
### Manual opening by smoke vent button:



### Automatic opening by fire detector:



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

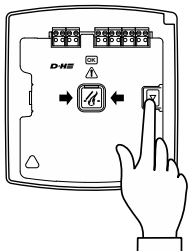


## Operation - Closing after alarm

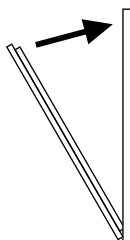
Open the housings (control panel and buttons) using the enclosed keys.

### With manual release:

1



2



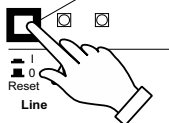
### In case of automatic release by fire detector or external control:

1

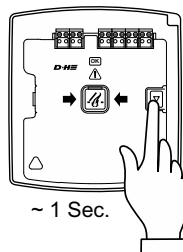


2

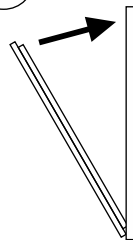
Reset =  
OFF / ON



3

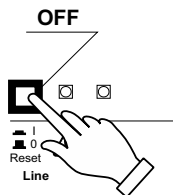


4

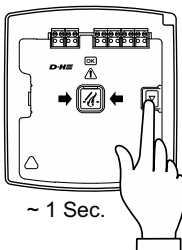


### Emergency closing in case of non-resettable alarm:

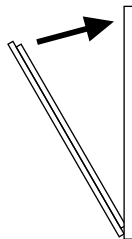
1



2



3

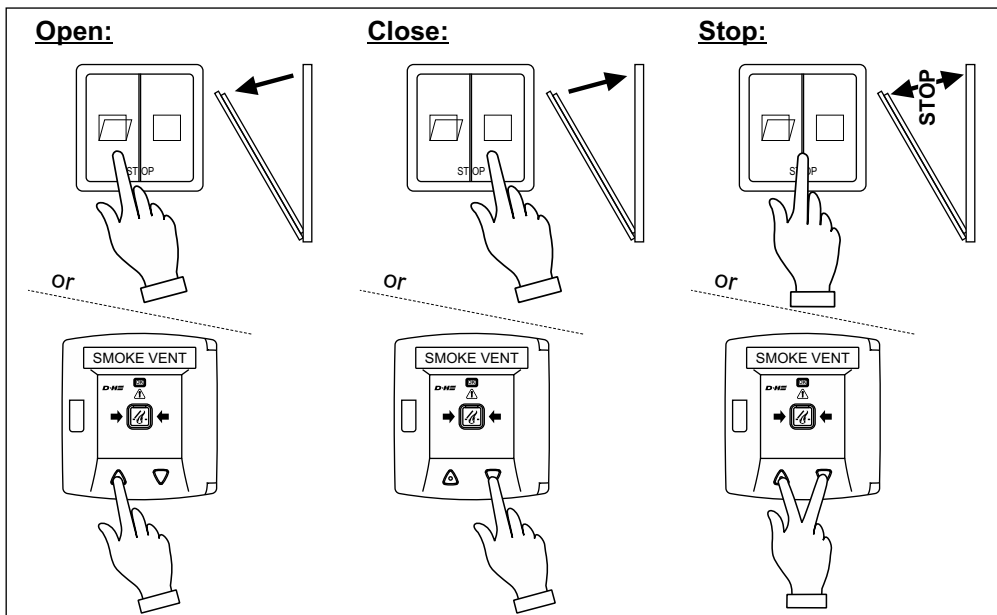


4



## Operation - Day-to-day ventilation

Ventilation button or SHEV button with ventilation function RT 45-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.

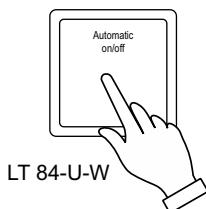
**Do not ventilate via smoke vent button, because otherwise there would be a danger of damage by wind or water.**

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

## Operation - AdComNet

**In case of AdComNet operation (S6.4 = ON)** the ventilation control and alarm release can be carried out by the local connected line and group inputs, as well as via corresponding links in the AdComNet Configurator. The alarm and fault indicators distinguish between a local message and a message inside a bus link:

### Malfunction LED on the line:

- 1 Line deactivated: LED flashes
- 2 local fault: LED lights continuous
- 3 BUS fault: LED flashes
- 4 Everything OK: LED OFF

### Malfunction LED on the group:

- 1 local fault: LED lights continuous
- 2 BUS fault: LED flashes
- 3 Everything OK: LED OFF

### Alarm LED on the line:

- 1 local alarm: LED lights continuous
- 2 BUS alarm: LED flashes
- 3 No alarm: LED OFF

## 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