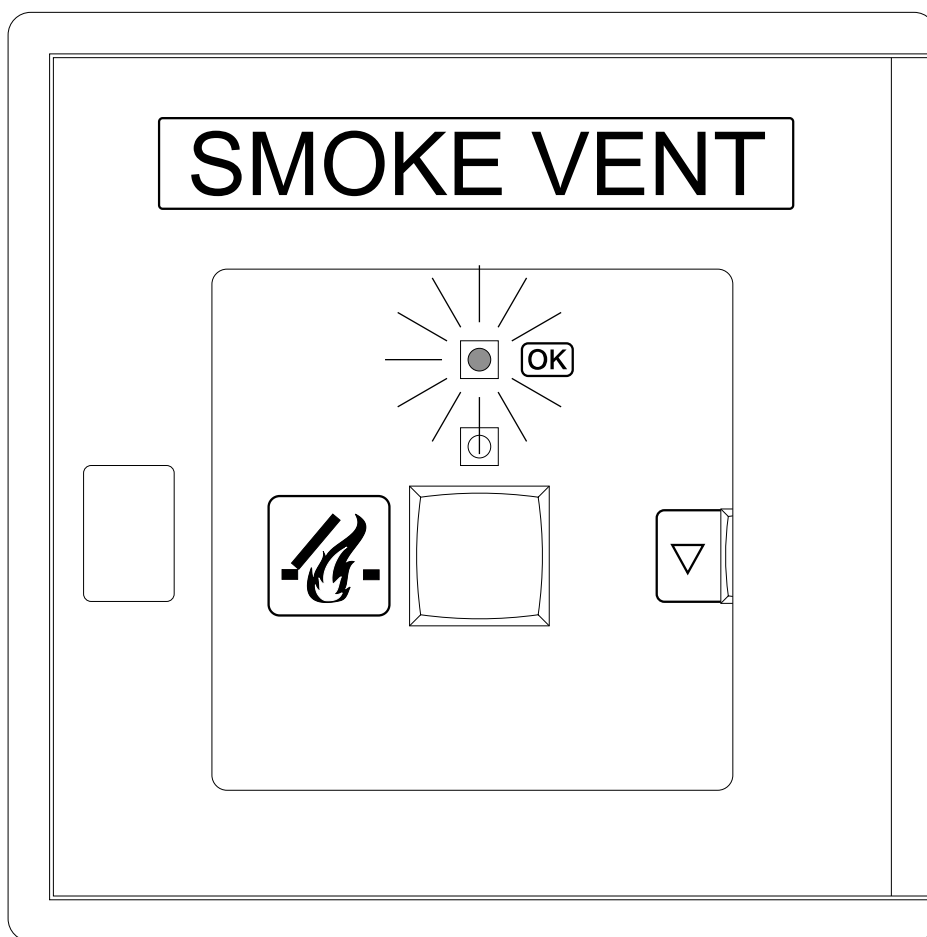


Smoke Vent System RZN 4304/8M

**This system is designed to protect lives and safeguard valuable property!
Annual function check by manufacturer or
duly authorized specialist.**

This operating information must be kept in the control panel!


OPERATING INSTRUCTIONS

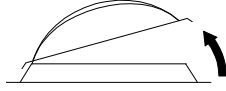


**The green pilot lights on the vent buttons must be lit up
at all time - if not, call service!**


Opening Operations

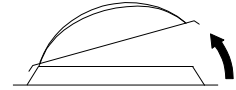
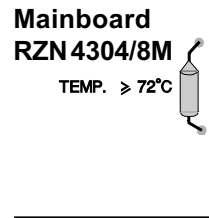
Opening in case of fire:

Break glass in front of vent button - Press the button marked , and the smoke vent opens, the red LEDs in the button and in the control panel light up.




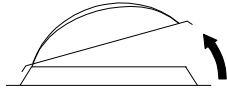
Automatic opening by thermal trip in control panel:

Smoke vent opens at $>72^{\circ}\text{C}$, the red LEDs  in the button and in the control panel light up. When closing see item "Emergency closing with non-resettable alarm".




Automatic opening by fire detector:

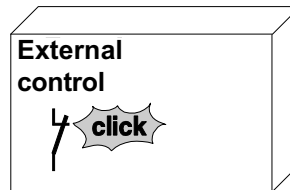
In case of alarm: pilot LED in fire detector lights up. Fire detector memorizes alarm. The smoke vent opens, and the red LEDs  in the button and in the control panel light up.



External control:

The contact in the external system closes.


The smoke vent opens, and the red LEDs  in the button and in the control panel light up.



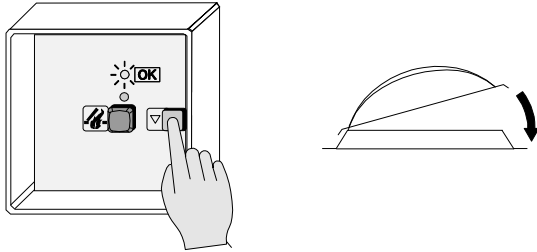
Closing Operations

Closing after alarm:

Manual actuation:

Press the concealed button marked ▽ in the smoke vent unit. The smoke vent closes, and the red LEDs  in the button and in the control panel extinguish.


Only enabled if DIP switch 4 is ON.



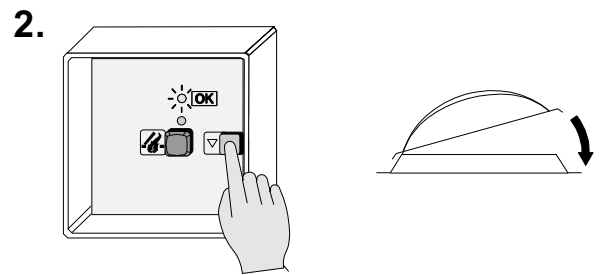
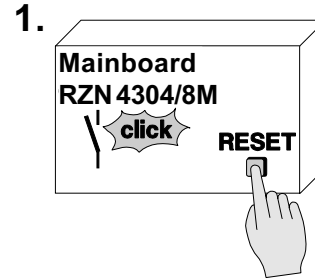
Closing after alarm:

If activated automatically by external control:

Press the contact in the external system, e.g. by resetting the fire detection system. Press the concealed button marked ▽ in the smoke vent unit.


The smoke vent closes, and the red LEDs  in the button and in the control panel extinguish.

Only enabled if DIP switch 4 is ON.



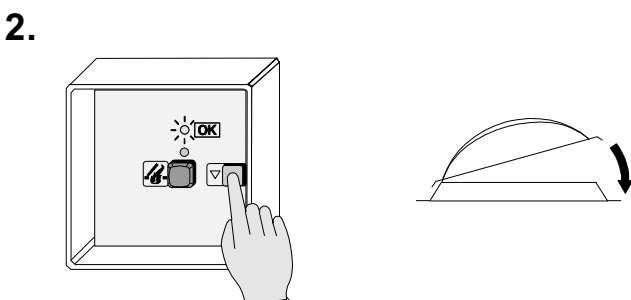
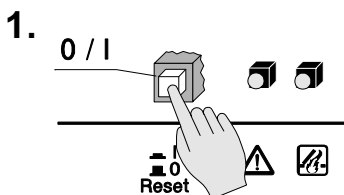
Closing after alarm:

If activated automatically by detector:


Wait until detector no longer contains any smoke. Use press button in control panel to switch line on/off. Press the concealed button marked ▽ in the smoke vent unit. The smoke vent closes, and the red LEDs  in the button and in the control panel extinguish.

Only enabled if DIP switch 4 is ON.

If DIP switch 3 are OFF, the detector can be reset by remote control using the smoke/heat vent button.

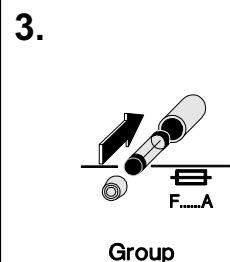
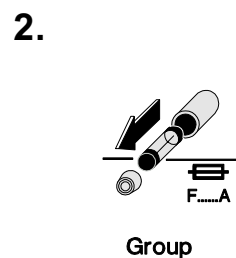
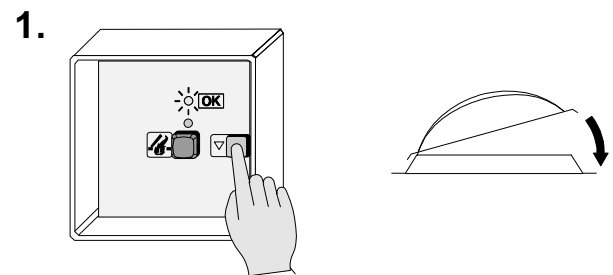


Emergency closing after power failure:

Press the concealed button marked ▽ in the smoke vent unit; then withdraw and reinsert the fuse **Group**  in the control panel (relays deenergize; emergency power is maintained).

Call the duty electrician at once!

Only enabled if DIP switch 4 is ON.



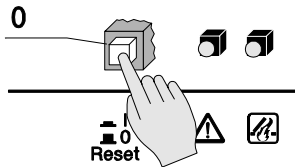
Closing Operations

Emergency closing with non-resettable alarm:

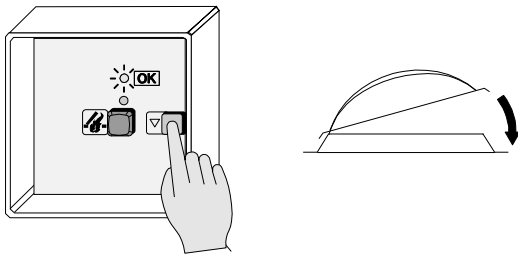
Use press button in control panel to switch line off. You can now either press the concealed button marked ∇ in the smoke vent unit or use a vent button to close. Call service at once.

Only enabled if DIP switch 4 is ON.

1.



2.

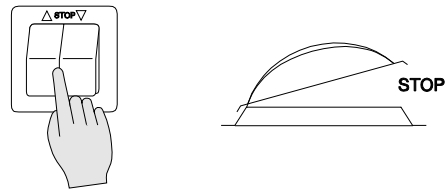
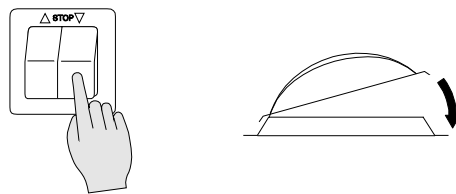
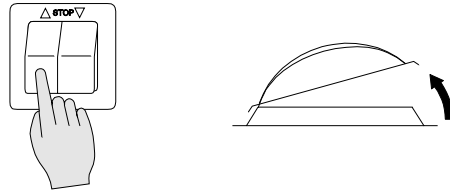


Ventilating Operations

Day-to-day ventilation:

Press the vent button \triangle or ∇ .

Window opens or closes up to final position. If you press both buttons at once, the window will stop in any intermediate position. This function is disabled during power failure or a smoke/heat alarm.



Information

OPTIONAL AUTOMATIC WIND/RAIN OPERATION

Only if wind or rain detector fitted.

Rain triggers a relay contact in the rain detector, or wind speeds of approx. 8 m/s (corresponding to wind force 4-5) trigger the wind vane contact.

If the automatic weather control is switched on at the **LT 43-W** vent button, or if the wind/rain detector has been wired directly, the system will close in windy or rainy conditions.

It does not open automatically after wind and/or rain have ceased. The system is opened for ventilation using the vent button.

In the event of a smoke/heat alarm the system will open even in windy or rainy conditions.

Do not use the smoke/heat vent button to ventilate, otherwise you risk damage from wind or rain.

If you wish to ventilate by opening slightly during adverse weather conditions, you must cut out the automatic weather control on the **LT 43-W**.

If you have **no LT 43-W** fitted, it is not possible to ventilate by opening slightly in adverse weather conditions.

Please consult the **Info sheets REM 42/ WM 42/ WRM 42** for further details.

Smoke Vent Control Panel RZN 4304/08M

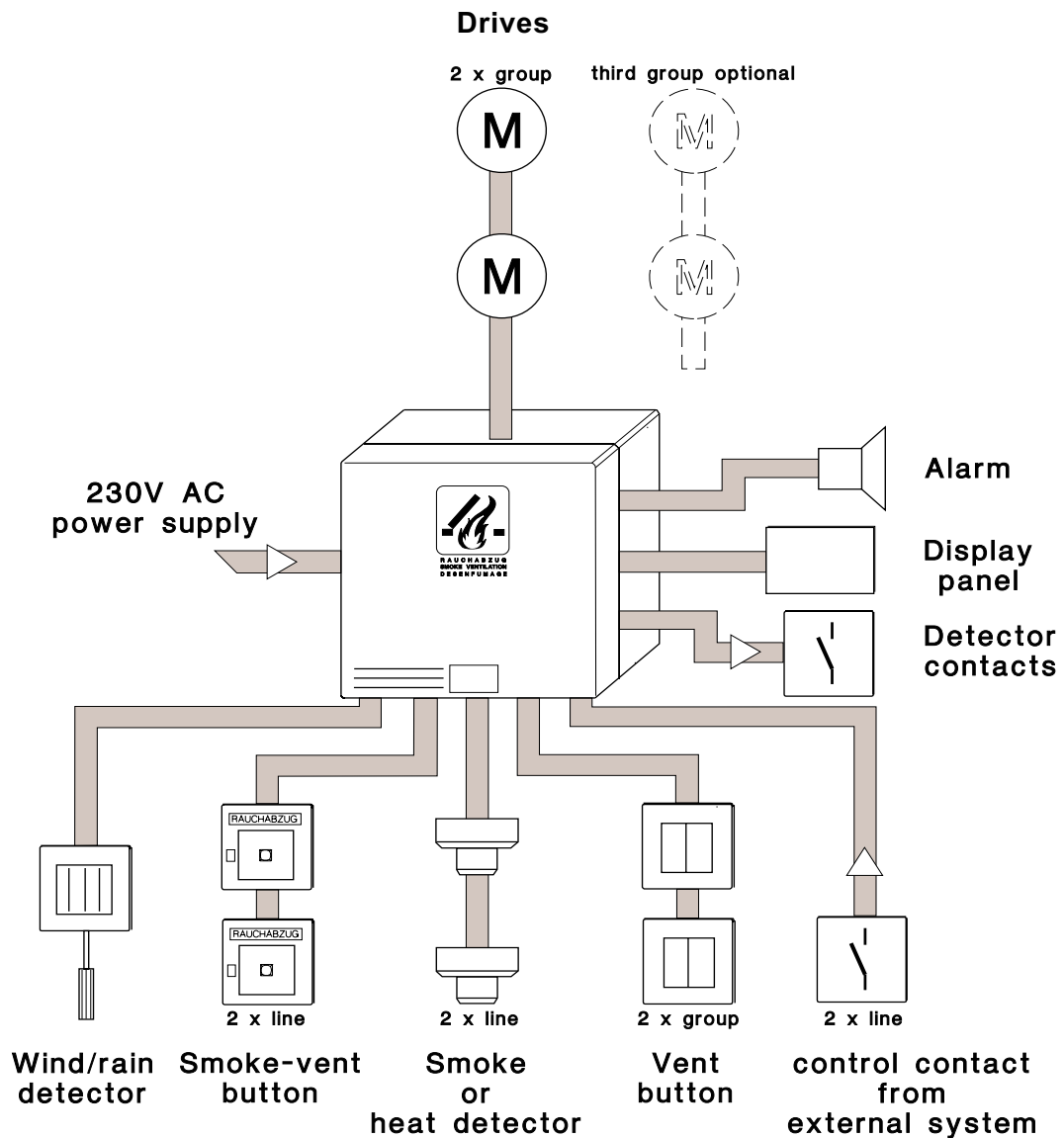
**This system is designed to protect lives and safeguard valuable property!
Annual function check by manufacturer or duly authorized specialist.**

Wiring, installation and functional testing only by qualified electrician.

The green pilot lights on the vent buttons must be lit up at all times, otherwise refer to "Troubleshooting".

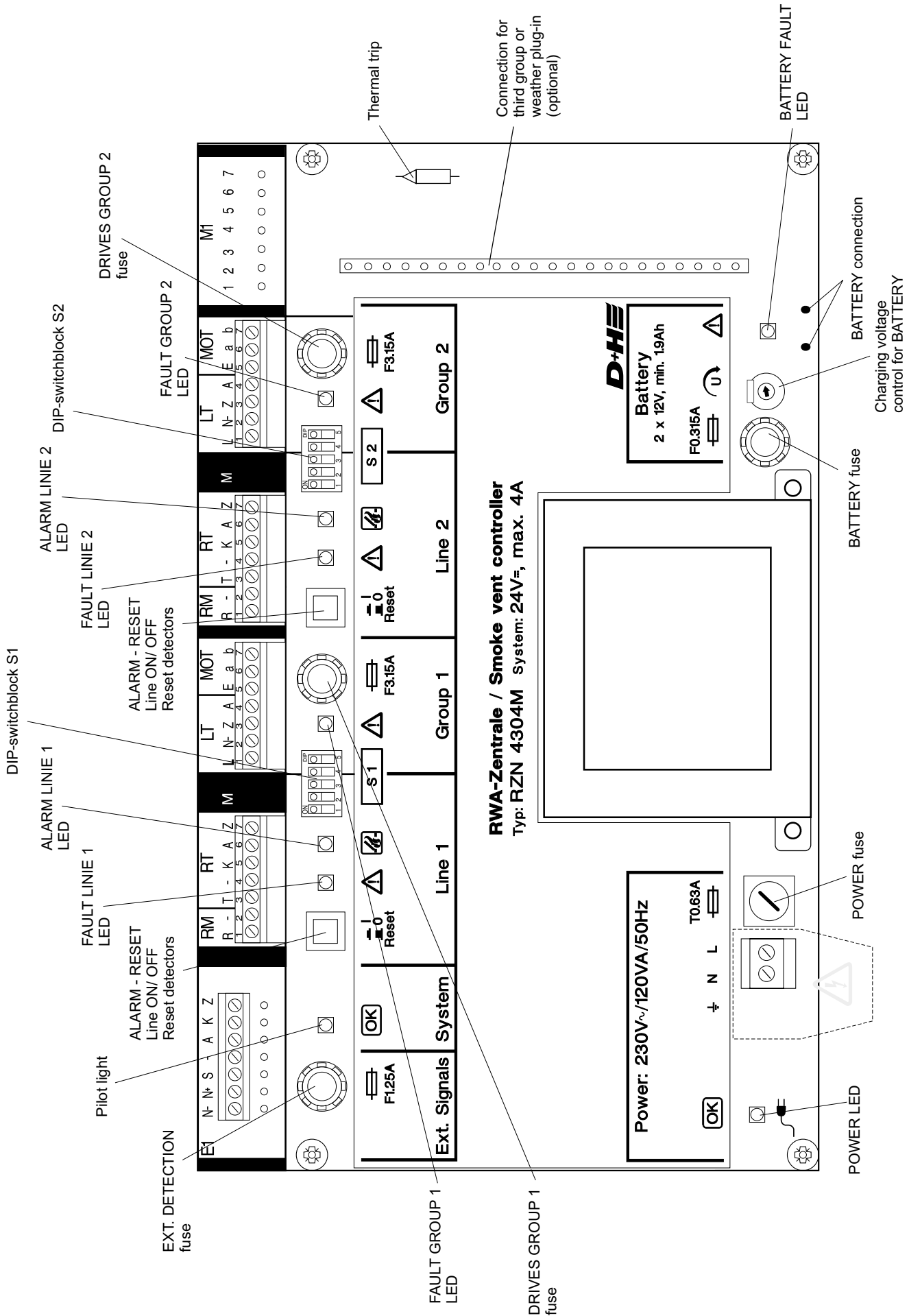
Rectify power failure without delay. Emergency power supplied for 72 hours.

INSTALLATION / MAINTENANCE



99.820.55 Rev.:1.2

Mainboard - General View



RWA-Zentrale / Smoke vent controller
 Typ: RZN 4304M System: 24V_±, max. 4A

Installation Information

230V power supply:

Separate, nondisconnectible circuit. Mark fuses for ID.
Power cable NYM-I 3x1.5. Connected load for
RZN 4304-M = 120 VA, for RZN 4308-M = 240 VA.

24V emergency power supply:

Use only VdS - approved batteries.

RZN 4304-M: 2 x 12 V / 1.9 Ah

RZN 4308-M: 2 x 12 V / 6.5 Ah

For connection with alarm - objects:

RZN 4304-M: 2 x 12 V / 6.5 Ah

RZN 4308-M: 2 x 12 V / 6.5 Ah

Attention! For RZN 4304-M in conjunction with 6.5 Ah- Batteries, always use the housing of RZN 4308-M.

Low-voltage wiring:

Install and insert low-voltage wiring separate from power-supply lines.

Mark wiring and terminal boxes red for identification.

Control panel:

Mount in sheltered position suitable for maintenance access in vicinity of drives.

Smoke-vent buttons:

Installations should be 150 cm above floor level.

Fire detectors:

Max. area of surveillance for smoke- and heat-vent system 400 m².

Min. clearance from walls, beams, etc. 50 cm.

Do not mount in airflow from ventilation systems or domelights. Fire extinguishing systems must not adversely affect the detectors. In case of sprinkler systems, please ask for information on special interactive control! Area of surveillance in conjunction with acoustic alarm as per BMA regulations.

Drives:









All connected drives must not have more than **4 ampere** altogether, when using control panel **type RZN 4304-M**, and they must not have more than **8 ampere** altogether, when using control panel **type RZN 4308-M**.

Direction of drive rotation:

Reverse poles if running in wrong direction.

Regulations:

The relevant regulations are VDE 0833 covering danger warning equipment, VDE 0100 for electrical systems, DIN 18232 for smoke- and heat-extraction systems, local fire-brigade regulations and the EVU for connection to mains supply.


Pictograph explanation	
	Smoke / heat alarm
	Fault
	Control panel O.K.
	Fuse
	Power supply
	Vent button "OPEN"
	Vent or smoke/heat vent button "CLOSE"
	Battery charging voltage control

Coding line and group

The following functions can be coded on the control panel using the DIP switches on the mainboard.

DIP switchblock **S1** codes **Line and Group 1**

DIP switchblock **S2** codes **Line and Group 2**

DIP switch 1 ON =	At alarm on one line the other line will be switched on automatically, that means all groups will open.
Attention! This function will be activated only if DIP switch No. 1 of both switchblocks are in the "ON" position.	
DIP switch 2 ON =	In case of a line fault (e.g. break in button wiring or missing terminal resistor), the control panel switches to alarm status, i.e. the smoke vent opens.
DIP switch 3 ON =	A smoke detector alarm cannot be reset by pressing the button  in the smoke/heat vent button unit once.
If you require a remote reset facility for the smoke detector using the smoke/heat vent button, DIP switches 3 must be OFF.	
DIP switch 4 ON =	The vent closes completely after the vent button has been pressed once.
If DIP switch 4 is OFF, the vents will only close as long as the vent button is pressed. After that it is no longer possible to close the vents using the smoke/ heat vent buttons or weather control!	
DIP switch 5 ON =	The vent opens completely after the vent button has been pressed once.
If DIP switch 5 is OFF, the vents will only open as long.	

Check-Up

Every 6 months and after specialist or other qualified personnel has taken the system into operation.
Eliminate faults without fail. Keep a log book.

Inspection:

Check all devices and cable connections for visible damage and dirt. Fire detectors, smoke-vent buttons, smoke vents, etc. must not be impeded in operation by storage goods or reconstruction measures.

Function:

Continually activate a different smoke-vent button (smoke detector) per line during each new test.



Open the smoke-vent button. First all open the system, then close it again.


Activate fire detectors with D+H smoke-detector test unit or cigarette smoke. Response time-lag approx. 20 sec. The red LED must light up, and the smoke vent must open.

Closing after automatic activation by smoke detector:

Wait until the detector no longer contains any smoke.

Use the button in the control panel to switch the line on / off.

Press the concealed button marked  in the smoke vent unit. The smoke vent closes, and the red LEDs  in the button and in the control panel extinguish.

When dip switch 3 is switched on OFF, the flap can be closed directly by smoke vent button as well. For this press masked key  in button.


Smoke vent closes, detectors will be reset.


If used, activate external control.

The smoke vent must open.

Closing after automatic activation by external control:


Opening the contact in the external system, e.g. by resetting the fire detection system.

Press the concealed button marked  in the smoke vent unit.

The smoke vent closes, and the red LEDs  in the button and in the control panel extinguish.

Check alarm display and all drives for smooth operation up to final opening/closing position.

Emergency power supply:

Cut out the main fuse in the distribution system. Repeat the function test. The green pilot light  in the smoke-vent buttons must not light up.

The green LED **Power**  in the control panel must not light up.

Ventilation is disabled.

Maintenance

Once a year by a specialist company, who is authorized by the appliance manufacturer.

Renew test badge, keep control book.


Respective current D+H maintenance instruction is decisive.












D+H authorized expert companies are specially trained by D+H for carrying out this maintenance competently, and therefore they are automatically provided with relevant maintenance instructions.

Following tests must be carried out with maintenance:

- Outside examination/ inspection of system components
- Measuring of insulation resistances
- 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

Troubleshooting

Should the smoke extraction system fail to operate satisfactorily or the green pilot light  in the button fail to light up, check the following points.

Symptoms	Causes	Remedy
Power		
LED  fails to light up.	No 230 V AC power supply.	Call duty electrician at once to rectify cause of power failure.
Battery		
LED  lights up.	Battery faulty.	Check battery, fuse and connections.
LED  fails to light up.	Batterie O.K.	
Group 1 or 2		
LED  lights up.	Fault in MOT group.	Check fuse, connections, cables, terminal resistors on drives.
Pilot light  extinguishes during closing operation; red LED  lights up; vent cannot close.	Fault in MOT group.	Check terminal resistor or module between terminals 5 and 7 .
Pilot light  extinguishes during closing operation after approx. 20 sec.; red LED  lights up.	Fault in MOT group.	Check terminal resistor or module between terminals 5 and 6 .
LED  fails to light up.	Group O.K.	
Line 1 or 2		
LED  lights up.	Fault in smoke-vent button line RT or in smoke detector line RM	Check fuse, connections, cables, terminal resistors, terminals, smoke-vent buttons, smoke detectors an external control system.
LED  fails to light up.	Line O.K.	

* Terminal resistors for line monitoring:

Are connected to terminals in the control panel during transport. Remove and wire according to diagram. In the absence of fire detectors or external control system, the terminal resistors remain connected to terminal RM 1,2.

* Max. no. of drives:

RZN 4304-M = 4 drives,
RZN 4308-M = 8 drives, each connected with total of 1A to a control panel.
Twice as many drives when powered with 0.5A.
If alarm devices wired, 1A less!

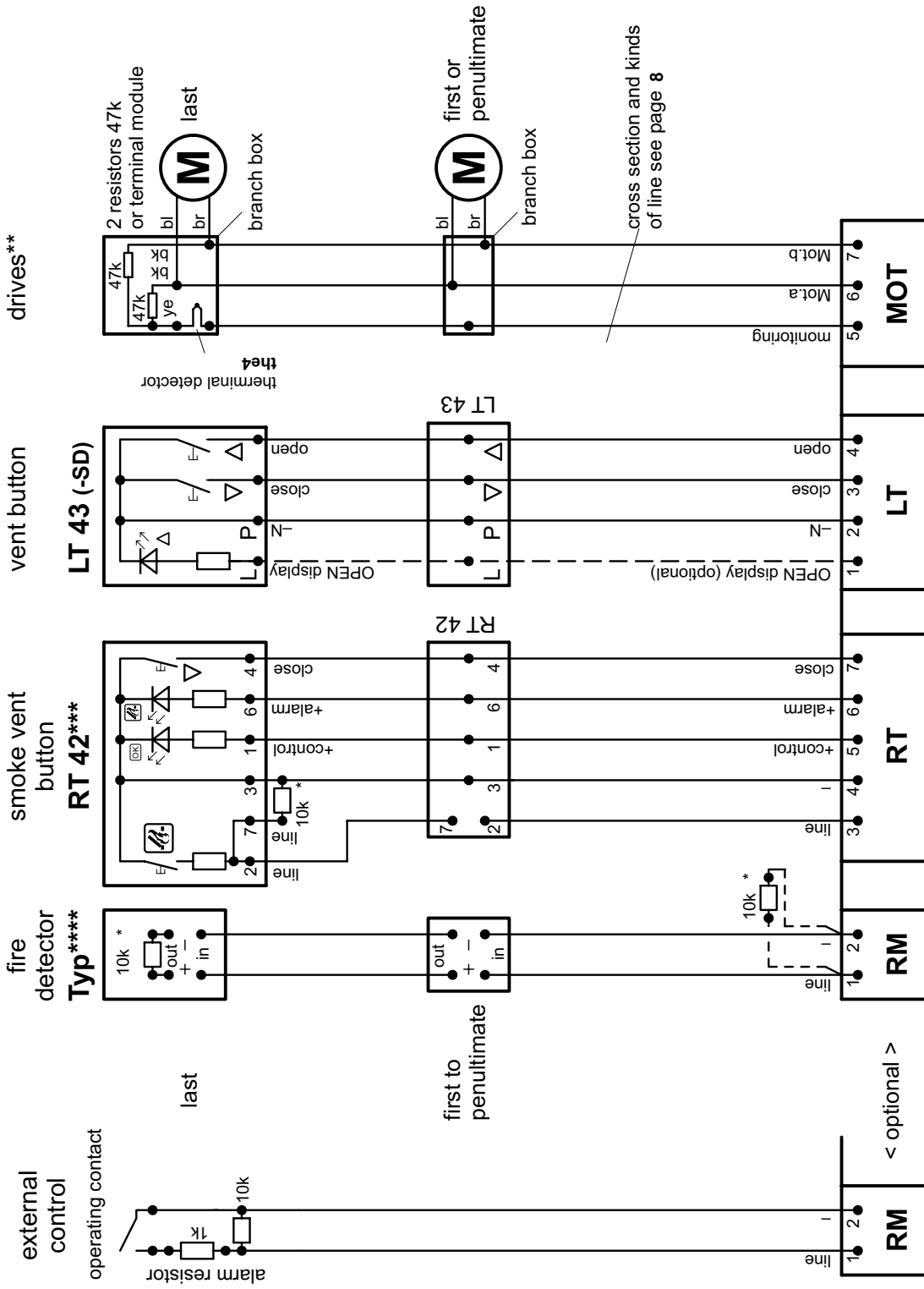
*** Smoke-vent button RT 42

On smoke-vent buttons with a lower PCB serial no. than **DH4642** (see rear of PCB): Line connection to next smoke-vent button from **terminal 2**. Terminal 7 is without significance.

**** Fire detectors

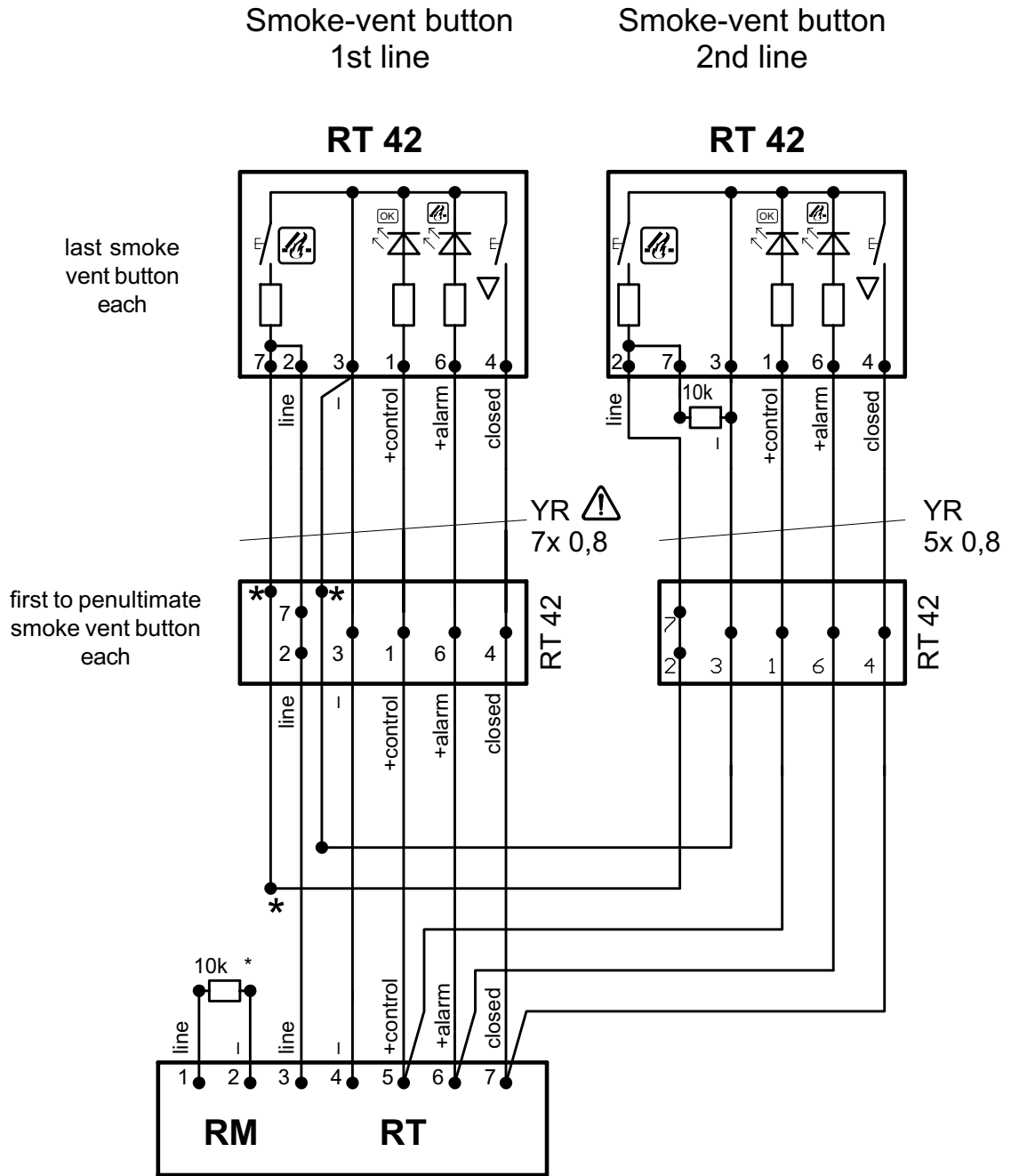
Only use detectors authorized for D+H systems.

Standard wiring



Connection

Parallel connection of smoke - vent buttons



* Shunt connection by customer

Sample Installations

Line lengths and cross-section:

In the case of many drives and long line lengths, voltage drop in the 24V systems is critical. Strictly observe max. cable lengths and cross-sections!

Cable: flush mounted ➔ NYM - O, single plastered surface mounted ➔ (N)HXM-I ... E30

Do not use ground wiring for other connection!

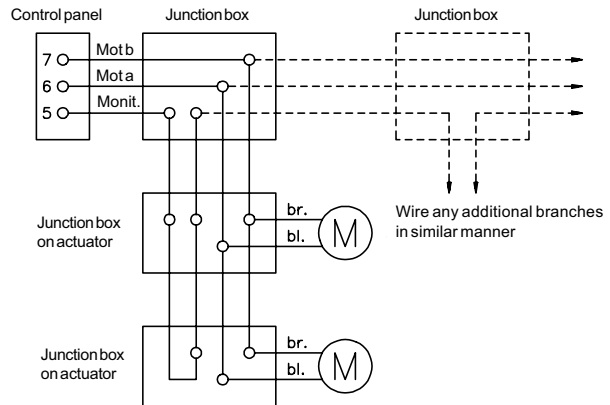
Drives*	1	2	3	4	5	6	7	8	
Cable 4x 1,5mm ²	100	50	30	25	20	16	14	12	m
Cable 4x 2,5mm ²	200	100	75	50	40	32	28	25	m
Cable** 7x 2,5mm ²	400	200	150	100	80	64	56	50	m

$$\text{Cross-section (mm}^2\text{)} = \frac{\text{Single length of cable (m) x no. of drives}}{80^{***}}$$

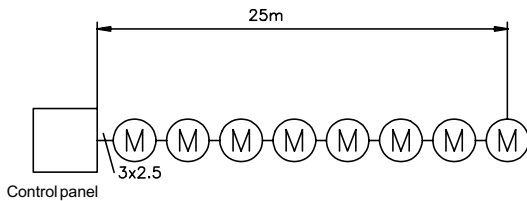
- * Table applies to 1A drives. For 0,5A drives, twice the line length applies.
- ** 2 conductors per drive line wire -MOT- in parallel!
- *** Applies only to drives with 1A motor current. Use "160" for drives with 0,5A motor current.

Connecting branches:

Supply wires **Mot a/ Mot b** branch in parallel; the **monitoring line** is through-connected up to the end of the group.

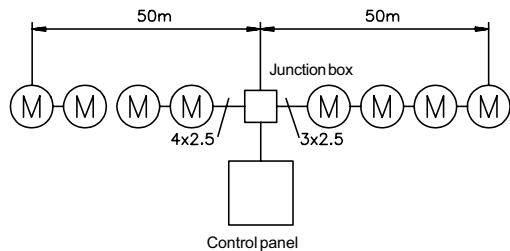


Example 1: 1 line



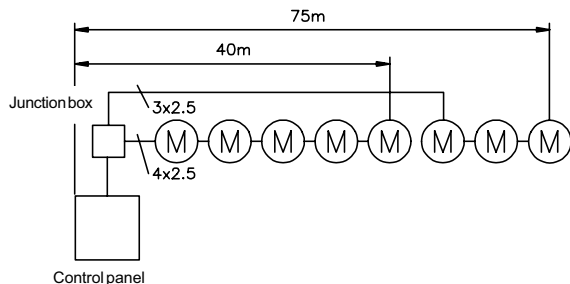
Simple installation, but unfavourable for voltage drop: All drives on one line.

Example 2: 2 lines



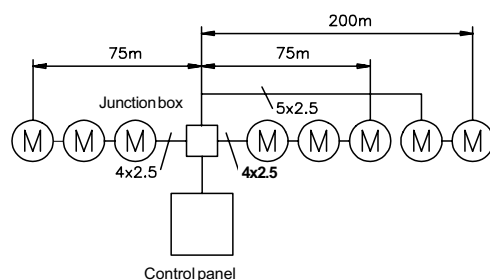
Control panel in the centre, one side wired as branch, the other as terminal line. Remember 4 wires for branch!

Example 3: 2 lines on one side



Branch and terminal lines in same direction; number of drives vary according to length of line. Remember 4 wires for branch!

Example 4: 3 lines



Due to extremely long distances, 3 lines are installed: 2 lines, each with 3 drives over 75 m as branch line, and 1 line with 2 drives over 200 m. Remember 4 wires for branch!