



CompactSmoke™ WSC 104 S AR Smoke control panel 4A



Natural
ventilation



Smoke ventilation
EN 12101



Rated voltage



Maksimal
output current



MotorLink[®]

Application

- smoke extraction and daily comfort ventilation
- 1 smoke / 1 daily ventilation groups
- 4A panel
- to be used with $\pm 24V$ standard actuators, MotorLink[®] actuators or pyrotechnic gas generators
- configuration on DIP switches
- less cabling as the panel uses bus technology
- low power consumption

Compact smoke control panel for the control of $\pm 24V$ DC actuators, actuators with MotorLink[®] or pyrotechnic gas generators for smoke ventilation and daily comfort ventilation. The panel can be used in small and medium sized buildings as well as in building sections e.g., staircases and restaurants.

Smoke zone / break glass unit

Break glass units from the WSK 5 series are to be used together with this panel.

Up to five break glass units type WSK 5xx can be connected. If keypad and smoke detector are to be connected to the break glass unit, break glass unit type WSK 501 or WSK 502 is to be used. Only one of this type of unit can be connected to the panel, the remaining (up to four) break glass units must be type WSK 503 or WSK 504.

Specifications

- approval according to EN 12101-10
- automatically limited window opening and / or opening duration for comfort ventilation without additional modules
- triggering by BMS via potential-free contact without any additional modules
- configuration via 8 DIP switches
- max. output voltage 24VDC @ 230VAC
- LED indication of the status of the panel
- simple installation – less cabling

Automatic reset function

The panel is automatically reset after the alarm signal from either a smoke detector or a fire alarm system has been deactivated.

The function can be deactivated by means of DIP switch.

Cabling

The panel uses bus technology and the overall cabling for break glass units, smoke detectors and keypads is significantly reduced compared to other types of smoke panels.

The panel has 1 input for a smoke detector or differential heat detector, 1 input for break glass units (where up to 5 break glass units can be connected) and 1 input for ventilation keypads (no max number of keypads).

Use break glass unit WSK 503 or WSK 504 when smoke or differential heat detectors are connected to the smoke detector input in the panel.

Use break glass unit WSK 501 or WSK 502 when smoke detector or ventilation keypad is connected to the break glass unit – see example:

Cable surveillance

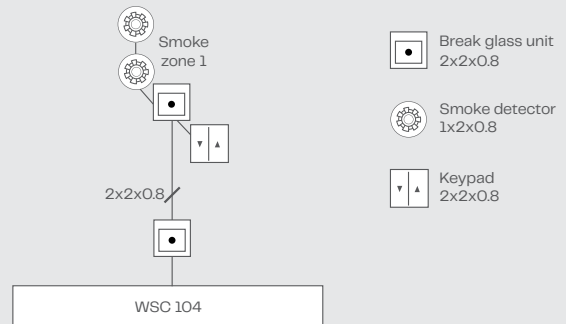
Actuators with MotorLink® are monitored via data communication.

For cable monitoring on $\pm 24V$ actuators and actuators not supplied by WindowMaster an "end of line module" type WSA 514 is to be added.

Back-up batteries

Built-in uninterruptible power supply for min. 72h in case of power loss (batteries are supplied).

Cabling with WSC 104



Description of the panel



The panel includes a power supply unit WCA 1P1 (4A), which is connected to the mains, a control card WSA 1SS as well as two back-up batteries.

The card contains:

- 1 motor lines for $\pm 24V$ standard or MotorLink® actuators
- 1 inputs for keypads for comfort ventilation
- 1 inputs for break glass units
- 1 input for smoke / differential heat detector
- output for alarm signal
- output for fault signal to Fire Alarm System
- input for weather station (WLA 330 or WLA 331)
- connection for USB device
- 8 DIP switches for easy configuration

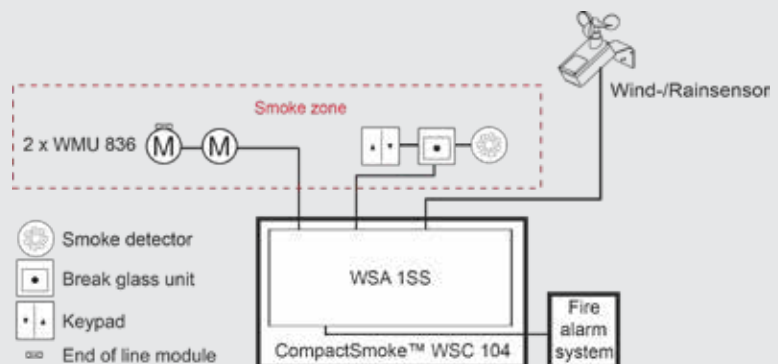
For information on connections please see the installation guide.

System example

The keypad and smoke detector is cabled directly to the break glass unit in the smoke zone, which means the need for cabling in the building is significantly reduced.

A wind/rain sensor is connected to close the windows during comfort ventilation in case of high wind and/or rain.

The smoke ventilation panel is connected to the Fire Alarm System.



Configuration / DIP switches

For configuration the smoke panel has DIP switches.

The factory settings for all the DIP switches is OFF.

DIP switch		
Switch	Description	ON / OFF function
1	No 230V window position unchanged	ON: No change in position in case of power failure OFF: The windows close in case of power failure.
2	Momentary action OPEN / CLOSE (comfort ventilation)	ON: The window actuators run as long as the comfort keypad is pressed. OFF: The windows close / open completely when pressing the comfort keypad once.
3	VdS triggering by alarm	ON: When the alarm is triggered the actuators will, in accordance with VdS 2581, for a duration of 30min be triggered to shortly reverse and open every second minute. OFF: Normal alarm.
4	The panel is automatically reset after the alarm signal on terminal X6 has been deactivated.	ON: The panel must manually be reset after the alarm has been triggered. OFF: The panel is automatically reset after the alarm has been deactivated.
5	The windows open or close in case of fire	ON: The windows close in case of fire OFF: The windows open in case of fire
6	Window opening is limited	ON: The window opening is limited to 30% during comfort ventilation OFF: The windows will open 100% during comfort ventilation
7	Window opening is time limited	ON: The windows will close after 30min during comfort ventilation. OFF: The windows will close when triggered by safety signal or close command.
8	Pyrotechnic gas generator is connected	ON: A pyrotechnic gas generator is connected. OFF: Window actuators are connected

Factory setting is OFF

Max numbers of actuators per panel

The table shows the maximum number of actuators, which can be connected to the panel depending on the type of the actuator.

The total power consumption of all the connected actuators must not exceed 4A.

	± 24V actuators	MotorLink® actuators ¹⁾
WMD 820-1	4	4
WMD 820-2	4	2
WMD 820-3	3	3
WMD 820-4	4	4
WMS 306-1	4	4
WMS 306-2	4	2
WMS 306-3	3	3
WMS 306-4	4	4
WMS 309-1	4	4
WMS 309-2	4	2
WMS 309-3	3	3
WMS 309-4	4	4
WMS 409 xxxx 01	2	0
WMS 409-1	2	2
WMS 409-2	2	2
WMU 831 / 851-1	4	4
WMU 831 / 851-2	4	2
WMU 831 / 851-3	3	3
WMU 831 / 851-4	4	4

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Continued		
	± 24V actuators	MotorLink® actuators ¹⁾
WMU 836-1	4	4
WMU 836-2	4	2
WMU 836-3	3	3
WMU 836-4	4	4
WMU 852-1	2	2
WMU 852-2	2	2
WMU 861-1	4	4
WMU 861-2	4	2
WMU 861-3	3	3
WMU 861-4	4	4
WMU 842 / 862 / 882-1	2	2
WMU 842 / 862 / 882-2	2	2
WMU 863 / 883-1	1	1
WMU 864 / 884-1	1	1
WMX 503 / 504 / 523 / 526-1	8	4
WMX 503 / 504 / 523 / 526-2	8	2
WMX 503 / 504 / 523 / 526-3	6	3
WMX 503 / 504 / 523 / 526-4	8	4
WMX 803 / 804 / 813 / 814 / 823 / 826-1	4	4
WMX 803 / 804 / 813 / 814 / 823 / 826-2	4	2
WMX 803 / 804 / 813 / 814 / 823 / 826-3	3	3
WMX 803 / 804 / 813 / 814 / 823 / 826-4	4	4
WML 820 / 825	4	
WML 860-1	4	4
WML 860-2	4	2
WML 860-3	3	3
WML 860-4	4	4
WMB 801 / 802 ²⁾	Actuators with a total of max. of 4A can be connected to the locking actuator	
WMB 811 / 812 / 815 / 816 / 817 / 818 ²⁺³⁾	4	4

¹⁾ MotorLink actuators must be of same type and with same configuration
²⁾ Do not exceed the total power consumption of the motor line
³⁾ When having two locking actuators on one motor line use: 1 x WMB 811 and 1 x WMB 812, 1 x WMB 815 and 1 WMB 816 or 1 x WMB 817 and 1 x WMB 818

Actuator type / number of speeds

This smoke ventilation panel gives the possibility of two window actuator speeds depending on the type of connected actuator:

- ±24V DC standard actuator – 1 speed (H&S)
- MotorLink® actuator – 2 speeds (H&S / manually operated)

The different speeds:

- manual control speed – actuators run fast and audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Max numbers of pyrotechnic gas generators per panel

Max. 12 pyrotechnic gas generators can be connected to the smoke panel.

Technical specifications							
Output current (nominal)	4A						
Motor lines Smoke zones	1 motor line (the line can be either a $\pm 24V$ standard motor line or a MotorLink [®] motor line) in 1 ventilation groups / 1 smoke zones						
Primary voltage	230V AC, 50Hz (85-264V AC, 47-63Hz)						
Actuator secondary voltage	<table border="1"> <tr> <td>Motor voltage</td> <td>24V DC ($\pm 15\%$)</td> </tr> <tr> <td>Open circuit voltage at 230V AC (no load)</td> <td>24V DC @ 20°C</td> </tr> <tr> <td>Ripple at max load</td> <td>150mVp-p</td> </tr> </table>	Motor voltage	24V DC ($\pm 15\%$)	Open circuit voltage at 230V AC (no load)	24V DC @ 20°C	Ripple at max load	150mVp-p
Motor voltage	24V DC ($\pm 15\%$)						
Open circuit voltage at 230V AC (no load)	24V DC @ 20°C						
Ripple at max load	150mVp-p						
AUX	24V DC, 500mA						
Power consumption	<p>min 0.3W², typ. 0.2W¹. At max load 1100W</p> <p>1) min. config. idle: 1 x break glass unit WSK 501 and 1 x smoke detector WSA 311, system operational but no actuators are running</p> <p>2) min. idle: 1 x break glass unit WSK 501, 4 x break glass units WSK 503, 4 x smoke detectors WSA 311 and 1 x rain sensor WLA 330</p> <p>3) max load: 1 x break glass unit WSK 501, 4 x break glass unit WSK 503 and 10 x smoke detectors WSA 311 in alarm.</p>						
Leakage current	max 1.4mA @ 240VAC						
Inrush current on primary site	50A / 230 VAC max. 7 x WSC 104 per 10A supply group. Circuit breaker "C" characteristic.						
Operating condition	-5°C - +40°C, max. 95% relative humidity (not condensing) EN 12101-10: Operation class A, Environmental class 1, with IP30						
Emergency power supply	>72 hours in accordance with EN 12101-10						
Switch-on duration	ED 40% (4 min. per 10 min.)						
Cable connection	Actuator: flexible max 6mm ² / solid max 10mm ² Other components: min 0.2mm ² / max 1.5mm ²						
Size and weight	224 x 283 x 85mm (HxWxD), 1.2kg no batteries, 4kg with batteries (2 x WSA 003)						
Material	Plastic housing for surface mounting						
Colour	White (RAL 9016)						
IP rating	IP30						
Certification	EN 12101-10						
Delivery includes	CompactSmoke [™] smoke ventilation panel. Supplied with 1 end of line module type WSA 514, 7 x 10k Ω resistors and 2 back-up battery type WSA 003						
Note	We reserve the right to make technical changes						

Smoke control panel 4A

Items	Item number
Smoke control panel 4A, 1 smoke zone / 1 daily ventilation group, 1 comfort input, 2 back-up batteries WSA 003	WSC 104 S AR 0101
Accessories	Item number
Break glass unit with signal, plastic housing. With data communication and input for smoke detector. Max. one break glass unit on each line. Colour of the housing = x: red = 1, yellow = 2, grey = 3, orange = 5	WSK 501 000x
Break glass unit with signal, metal housing. With data communication and input for smoke detector. Max. one break glass unit on each line. Colour of the housing = x: yellow = 2, grey = 3, orange = 5	WSK 502 000x
Break glass unit with signal, plastic housing. With data communication. No input for smoke detector or keypad. Max five units per line. Colour of the housing = x: red = 1, yellow = 2, grey = 3, orange = 5	WSK 503 000x
Break glass unit with signal, metal housing. With data communication. No input for smoke detector or keypad. Max five units per line. Colour of the housing = x: yellow = 2, grey = 3, orange = 5	WSK 504 000x
Smoke detector	WSA 311
Differential heat detectors	WSA 310
Rain sensor	WLA 331
Rain/wind sensor	WLA 330
End of line motor module	WSA 514
10kΩ resistance, 10 pcs.	WSA 501
Cable glands	WSA 133
Cables for smoke ventilation – see separate product sheet for further information	WLL 8xx
Comfort keypad for 1 window or 1 window group	WSK 110 0A0B
Comfort keypad for 1 window or 1 window group UK version	WSK 200