



CompactSmoke™ WSC 104 Smoke control panel 4A



Natural
ventilation



Smoke ventilation
EN 12101



Smoke ventilation
ISO 21927-9

230V

Rated voltage

MAX
4A

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 10 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 nine) break glass units must be type WSK 503 or WSK 504.

Specifications

- approval according to EN 12101-10 and ISO 21927-9
- 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

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 10 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

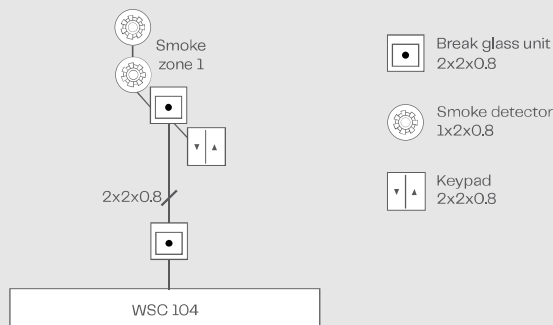
Actuators with MotorLink® are monitored via data communication.

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

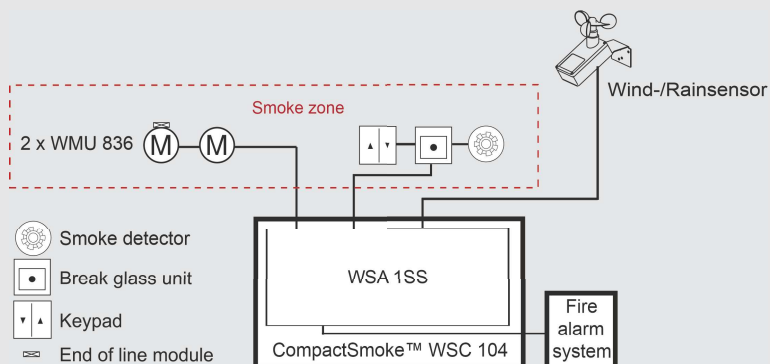
For information on connections please see the installation guide.

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 | Smoke detector CLOSE (primarily used in Switzerland) | ON: When the alarm is triggered by a smoke detector, the windows will close in all smoke zones. A following operation of a break glass unit will leave the system in alarm but trigger the actuators to open the windows. Break glass units have higher priority than smoke detectors. OFF: Regardless if the alarm is triggered by smoke detectors or break glass units, the window actuators will open the windows |
| 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 (nominel) | 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 | Motor voltage Open circuit voltage at 230V AC (no load) Ripple at max load | 24V DC ($\pm 15\%$) 24V DC @ 20°C 150mVp-p |
| AUX | 24V DC, 500mA | |
| Power consumption | Min. config. 1.62W ¹ . Max. config. 3.38W ² . At max load 120W 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 2) max. config. idle: 1 x break glass unit WSK 501, 9 x break glass units WSK 503, 4 x smoke detectors WSA 311 and 1 x rain sensor WLA 330, system operational but no actuators are running 3) max load: 1 x break glass unit WSK 501, 9 x break glass unit WSK 503 and 10 x smoke detectors WSA 311 in alarm. Full load on motorline and AUX. | |
| Leakage current | max 1.4mA @ 240VAC | |
| Inrush current on primary site | 50A / 230 VAC max. 5 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 and ISO 21927-9 | |
| Delivery includes | CompactSmoke™ smoke ventilation panel. Supplied with 1 end of line module type WSA 514, 7 x 10kΩ 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 0101 |
| Accessories | Item number |
| Break glass unit with signal, plastic housing. With data communication and input for smoke detector. Max. one break glass unit per panel. 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 per panel. 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 10 units per panel. 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 10 units per panel. Colour of the housing = x: yellow = 2, grey = 3, orange = 5 | WSK 504 000x |
| Fireman's override switch | WSK 510 |
| 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 |