

CompactSmoke™ WSC 310 / WSC 320 STANDARD

# SMOKE CONTROL PANEL 10-20A



## Description

- smoke extraction and daily comfort ventilation
- 2 smoke / 2 daily ventilation groups
- 10 and 20A panels
- to be used with  $\pm 24V$  standard actuators and/or
- MotorLink® actuators
- 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 and actuators with MotorLink® 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. stair cases and restaurants.

The panel is configured on DIP switches.

## Panel versions

The STANDARD panel is supplied in two versions:

- 10A, 2 smoke zones / 2 daily ventilation groups:  
WSC 310 S 0202
- 20A, 2 smoke zones / 2 daily ventilation groups  
WSC 320 S 0202

The panel is also supplied as a PLUS version where the configuration is done on the build in touchscreen – please see the separate product sheet for further information.

## Smoke zone / break glass unit

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

The panel registers if break glass units are connected to one or two inputs on the panel and will based on this automatically configure the smoke zones. When connecting to one input, one smoke zone with two motor lines will be configured, and when connecting to two inputs two smoke zone each with one motor line will be created.

On each line up to five break glass units type WSK 503 or WSK 504 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 connect one of this type of unit, the remaining (up to four) break glass units must be type WSK 503 or WSK 504.

## 20A on one motor line (only WSC 320)

WSC 320 with 20A includes up to two motor lines each with 10A. If there is a need of more than 10A on one motor line, DIP switch 2.5 is set to 20A. Hereafter one motor line can be loaded with 20A or two motor lines can loaded up to a total of 20A e.g. 17A and 3A.

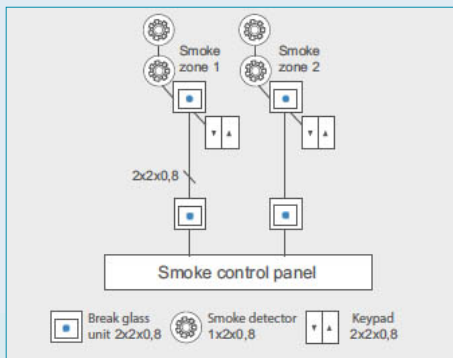
## Cabling

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, 2 inputs for break glass units (where up to 10 break glass units can be connected) and 2 inputs for ventilation keypads (no max number of keypads).

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

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



## Cable surveillance

Actuators with MotorLink® are monitored via data communication. If the actuator variants are not the same, a LED will indicate error.

For cable monitoring on  $\pm 24V$  actuators and actuators not supplied by WindowMaster an "end of line module" type WSA 510 (10k $\Omega$  resistor) is to be added.

## Back-up batteries

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

## Specifications

- approval according to EN 12101-10
- automatically limited opening for comfort ventilation without additional modules
- triggering by BMS via potential-free contact without any additional modules
- configuration via DIP switches
- max. output voltage 27,6VDC @ 230VAC
- LED indication of the status of the panel
- simple installation – less cabling

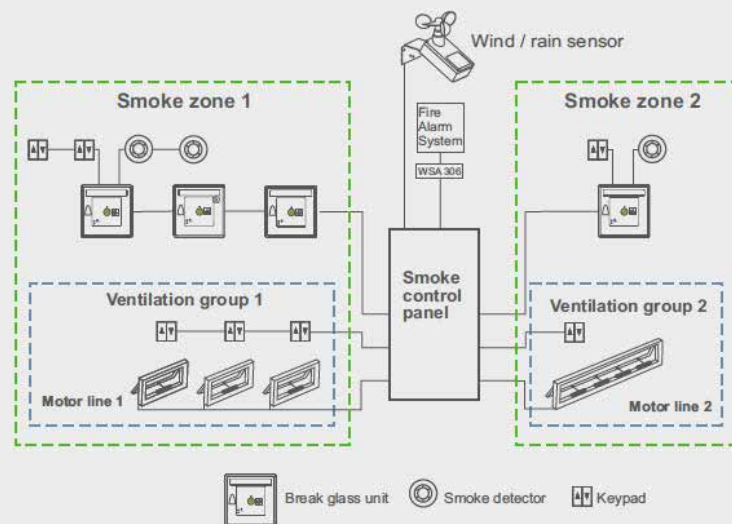
## System example with WSC 320 STANDARD

Smoke control panel (20A) with two smoke zones.

The keypads and smoke detectors are cabled directly to the break glass units in the smoke zones, 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 (common for both smoke zones).



## Description of the panel

Each panel includes a power supply unit WCA 3P1 (10A) or WCA 3P2 (20A), which is connected to the mains, a main control card WCA 3SS as well as two back-up batteries.

For information on connections please see the installation guide.

## Description of card

### Main card WCA 3SS

#### The card contains:

- 2 motor lines for  $\pm 24V$  standard actuators or MotorLink® actuators
- 2 inputs for keypads for comfort ventilation
- 2 inputs for break glass units
- 1 input for smoke detector
- 1 input for 24V/48V (primarily for France)
- output for fault signal to Fire Alarm System
- input for weather station (WLA 330 or WLA 331)
- connection for USB device



## 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   |
|--------|--|---|
| 1.1    | 230v power failure   | ON: The windows close in case of power failure.<br>OFF: No change in position in case of power failure.   |
| 1.2    | Momentary action CLOSE (comfort ventilation)                               | ON: The window actuators run as long as the comfort keypad is pressed.<br>OFF: The windows close completely when pressing the comfort keypad once.  |
| 1.3    | Momentary action OPEN (comfort ventilation)                                | ON: The window actuators run as long as the comfort keypad is pressed.<br>OFF: The windows open completely when pressing the comfort keypad once.   |
| 1.4    | System fault triggers alarm  | ON: In case of fault (yellow LED lights), the system will go into Alarm and the windows will open.<br>OFF: Only fault indication  |
| 1.5    | 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.<br>OFF: Normal alarm.  |
| 1.6    | 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.<br>OFF: Regardless if the alarm is triggered by smoke detectors or break glass units, the window actuators will open the windows |
| 1.7    | 24V / 48V input active (primarily used in France)                          | ON: The 24V / 48V input is active. Only one smoke zone is possible.<br>OFF: The 24V / 48V input is deactive. Up to 2 smoke zones are possible.  |
| 1.8    | Actuators with higher run time than 61sec. (both closing and opening time) | ON: The panel will leave actuator voltage on for 180 sec. Used for non EN 12101-2 conform actuators.<br>OFF: Used with actuators with a run time of less than 60 sec. (normal)  |

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## Configuration / DIP switches

For configuration the smoke panel has DIP switches.  
The factory settings for all the DIP switches is OFF.

| Continued - DIP switch |  |   |
|------------------------|--|---|
| Switch                 | Description  | ON/OFF function   |
| 2.1 - 2.3              | Run time limitation (OPEN)<br>(comfort ventilation)                | The opening run time of the window actuators can be limited via the DIP switch 2.1 - 2.3.   |
| 2.4                    | Re-activation of run time limitation (OPEN)                        | ON: If DIP switch 2.1 - 2.3 is activated, the run time limitation can be reactivated.<br>OFF: Normal  |
| 2.5                    | 20A actuator output on X1  | ON: Actuator output X1 is 20A and actuator output X2 is 10A.<br>OFF: Both actuator outputs (X1 & X2) are 10A.   |
| 2.6                    | 230 VAC no break<br>(no batteries)                                 | ON: ONLY use this function if the panel is connected to a 230V safety no break supply!<br>OFF: Normal operation   |
| 2.7                    | Deactivate grace timer<br>(manual operation after an auto command) | ON: No manual operation after an auto command.<br>OFF: Standard setting for 30 sec. is used.<br>The grace timer is a safety feature that gives the user the possibility to interfere with automatic (non smoke) commands for 30 sec. After the 30 sec. has ran out the actuator will return to the automatic position.<br>Smoke commands (Alarm/Reset) always has first priority. |
| 2.8                    | No function  |   |

Factory setting: OFF

## Max numbers of actuators per motor line and panel

The table shows the maximum number of actuators, which can be connected per motor line and panel depending on the type of the actuator and panel.

The total power consumption of all the connected actuators must not exceed 10A for the WSC 310 and 20A for the WSC 320.

| WSC 310 / WSC 320 STANDARD |                 |                      |                  |                      |                  |                      |
|----------------------------|-----------------|----------------------|------------------|----------------------|------------------|----------------------|
| Actuator type              | per motor line  |                      | WSC 310 Standard |                      | WSC 320 Standard |                      |
|                            | ± 24V actuators | MotorLink® actuators | ± 24V actuators  | MotorLink® actuators | ± 24V actuators  | MotorLink® actuators |
| WMS 306-1                  | 10              | 4                    | 10               | 8                    | 20               | 8                    |
| WMS 306-2                  | 10              | 2                    | 10               | 4                    | 20               | 4                    |
| WMS 306-3                  | 9               | 3                    | 9                | 6                    | 18               | 6                    |
| WMS 306-4                  | 8               | 4                    | 8                | 8                    | 20               | 8                    |
| WMS 309-1                  | 10              | 4                    | 10               | 8                    | 20               | 8                    |
| WMS 309-2                  | 10              | 2                    | 10               | 4                    | 20               | 4                    |
| WMS 309-3                  | 9               | 3                    | 9                | 6                    | 18               | 6                    |
| WMS 309-4                  | 8               | 4                    | 8                | 8                    | 20               | 8                    |
| WMS 409 xxxx 01            | 5               | 0                    | 5                | 0                    | 10               | 0                    |
| WMS 409-1                  | 5               | 4                    | 5                | 4                    | 10               | 8                    |
| WMS 409-2                  | 4               | 2                    | 4                | 4                    | 8                | 4                    |
| WMS 409-3                  | 3               | 3                    | 3                | 3                    | 6                | 6                    |
| WMS 409-4                  | 4               | 4                    | 4                | 4                    | 8                | 8                    |
| WMS 515                    | 2               | 0                    | 2                | 0                    | 4                | 0                    |
| WMU 836-1                  | 10              | 4                    | 10               | 8                    | 20               | 8                    |
| WMU 836-2                  | 10              | 4                    | 10               | 8                    | 20               | 4                    |
| WMU 836-3                  | 9               | 3                    | 9                | 6                    | 18               | 6                    |
| WMU 836-4                  | 8               | 4                    | 8                | 8                    | 20               | 8                    |

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## WSC 310 / WSC 320 STANDARD

| Actuator type               | per motor line   |                      | WSC 310 Standard |                      | WSC 320 Standard |                      |
|-----------------------------|--|----------------------|------------------|----------------------|------------------|----------------------|
|                             | ± 24V actuators  | MotorLink® actuators | ± 24V actuators  | MotorLink® actuators | ± 24V actuators  | MotorLink® actuators |
| WMU 861-1                   | 6  | 4                    | 6                | 4                    | 12               | 8                    |
| WMU 861-2                   | 6  | 2                    | 6                | 4                    | 12               | 4                    |
| WMU 861-3                   | 6  | 3                    | 6                | 3                    | 12               | 6                    |
| WMU 861-4                   | 4  | 4                    | 4                | 4                    | 12               | 8                    |
| WMU 842 / 862 / 882-1       | 4  | 4                    | 4                | 4                    | 8                | 8                    |
| WMU 842 / 862 / 882-2       | 4  | 2                    | 4                | 2                    | 8                | 4                    |
| WMU 842 / 862 / 882-3       | 3  | 3                    | 3                | 3                    | 6                | 6                    |
| WMU 842 / 862 / 882-4       | 4  | 4                    | 4                | 4                    | 8                | 8                    |
| WMU 863 / 883-1             | 2  | 2                    | 2                | 2                    | 6                | 6                    |
| WMU 863 / 883-2             | 2  | 2                    | 2                | 2                    | 6                | 4                    |
| WMU 863 / 883-3             | 0  | 0                    | 0                | 0                    | 6                | 6                    |
| WMU 863 / 883-4             | 0  | 0                    | 0                | 0                    | 4                | 4                    |
| WMU 864 / 884-1             | 2  | 2                    | 2                | 2                    | 4                | 4                    |
| WMU 864 / 884-2             | 2  | 2                    | 2                | 2                    | 4                | 4                    |
| WMU 864 / 884-3             | 0  | 0                    | 0                | 0                    | 3                | 3                    |
| WMU 864 / 884-4             | 0  | 0                    | 0                | 0                    | 3                | 4                    |
| WMU 885 / 895-1             | 2  | 2                    | 2                | 2                    | 4                | 4                    |
| WMU 885 / 895-2             | 2  | 2                    | 2                | 2                    | 4                | 4                    |
| WMU 885 / 895-3             | 0  | 0                    | 0                | 0                    | 4                | 3                    |
| WMU 885 / 895-4             | 0  | 0                    | 0                | 0                    | 3                | 4                    |
| WMX 503 / 504 / 523 / 526-1 | 20   | 4                    | 20               | 8                    | 4                | 8                    |
| WMX 503 / 504 / 523 / 526-2 | 20   | 2                    | 20               | 4                    | 40               | 4                    |
| WMX 503 / 504 / 523 / 526-3 | 18   | 3                    | 18               | 6                    | 40               | 6                    |
| WMX 503 / 504 / 523 / 526-4 | 20   | 4                    | 20               | 8                    | 39               | 8                    |
| WMX 803 / 804 / 823 / 826-1 | 10   | 4                    | 10               | 8                    | 40               | 8                    |
| WMX 803 / 804 / 823 / 826-2 | 10   | 2                    | 10               | 4                    | 20               | 4                    |
| WMX 803 / 804 / 823 / 826-3 | 9  | 3                    | 9                | 6                    | 20               | 6                    |
| WMX 803 / 804 / 823 / 826-4 | 8  | 4                    | 8                | 8                    | 18               | 8                    |
| WML 820/825                 | 10   | 0                    | 10               | 0                    | 20               | 0                    |
| WML 860-1                   | 10   | 4                    | 10               | 8                    | 20               | 8                    |
| WML 860-2                   | 10   | 2                    | 10               | 4                    | 20               | 8                    |
| WML 860-3                   | 9  | 3                    | 9                | 6                    | 18               | 6                    |
| WML 860-4                   | 8  | 4                    | 8                | 8                    | 20               | 8                    |
| WMB 801/802*                | Actuators with a total max. of 4A can be connected to the locking actuator |                      |                  |                      |                  |                      |
| WMB 811/812 **/**           | 10   | 2                    | 10               | 4                    | 20               | 4                    |

\* Do not exceed the total power consumption of the motor line

\*\* When having two locking actuators on one motor line use: 1 x WMB 811 and 1 x WMB 812

### Actuator type / number of speeds

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

### Actuator type / number of speeds:

- ±24V DC standard actuator – 1 speed (H&S)

- MotorLink® actuator – 2 speeds (H&S / comfort ventilation)

### The different speeds:

- a medium fast and audible speed when manually or automatically operated comfort ventilation
- a fast speed with H&S ventilation and security functions. H&S always has first priority

## Technical specifications

|  |  |   |
|--|--|---|
| Output current (nominal)                         | WSC 310: 10A / WSC 320: 20A  |   |
| Motor lines<br>Ventilation groups<br>Smoke zones | Max 2 motor lines (a line can be either a $\pm 24V$ standard motor line or a MotorLink® motor line)<br>in max 2 ventilation groups and max 2 smoke zones   |   |
| Primary voltage                                  | 230V AC, 50Hz (85-264V AC, 47-63Hz)  |   |
| Actuator secondary voltage                       | Motor voltage<br>Open circuit voltage at 230V AC (no load)<br>Ripple at max load   | 24V DC ( $\pm 15\%$ )<br>27.6V DC @ 20°C<br>max 6% (3.5Vpp) |
| Power consumption                                | WSC 310: min 3.2W $\pm 2$ , typ. 4.8W $\pm 3$ . At max load 300W<br>WSC 320: min 5.0W $\pm 2$ , typ. 5.6W $\pm 3$ . At max load 600W<br>1) no load: system operational but no motors are running<br>2) min: with 1 x WSK 501 break glass unit and 1 x WSA 300 smoke detector<br>3) max load: with 1 x WSK 501 break glass unit, 4 x WSK 503 break glass unit and 10 x WSA 300 smoke detector |   |
| Inrush current on primary site                   | 70A < 5ms<br>Max 3 x WSC 310/320 per 10 A supply group.<br>Circuit breaker "C" characteristic.   |   |
| Operating condition                              | -5°C - +40°C, max. 95% relative humidity (not condensing)<br>EN 12101-10: Operation class A, Environmental class 1, with IP value increased to IP 54<br>(according to EN 12101-10 is min. IP 30 required)  |   |
| 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 <sup>2</sup> / solid max 10mm <sup>2</sup><br>Other components: min 0.2mm <sup>2</sup> / max 1.5mm <sup>2</sup>   |   |
| Size and weight                                  | WSC 310: 400 x 300 x 120mm (WxHxD), 6.0kg no batteries, 10.8kg with batteries (2xWSA 007)<br>WSC 320: 400 x 300 x 210mm (WxHxD), 8.6kg no batteries, 16.6kg with batteries (2xWSA 012)   |   |
| Material   | Metal housing for surface mounting   |   |
| Colour   | Grey (RAL 7035)  |   |
| IP rating  | IP54   |   |
| Certification                                    | EN 12101-10.   |   |
| Delivery includes                                | CompactSmoke™ smoke ventilation panel.<br>Supplied with:<br><ul style="list-style-type: none"> <li>• WSA 510 end of line module, 2 pcs.</li> <li>• WSA 501 10k<math>\Omega</math> resistors (package of 10 pcs.)</li> <li>• Back-up battery type, 2 pcs. WSA 007 (WSC 310) or WSA 012 (WSC 320)</li> </ul>   |   |
| Spare parts                                      | See the spare part list on the website <a href="http://www.windowmaster.com">www.windowmaster.com</a> under "Products"   |   |
| Note   | We reserve the right to make technical changes   |   |

# SMOKE CONTROL PANEL 10-20A

| Items   | Item number       |
|---|-------------------|
| Smoke control panel 10A, 2 smoke zones / 2 daily ventilation groups, 2 comfort inputs, 2 back-up batteries WSA 007  | WSC 310 S 0202 E1 |
| Smoke control panel 20A, 2 smoke zones / 2 daily ventilation groups, 2 comfort inputs, 2 back-up batteries WSA 012  | WSC 320 S 0202 E1 |
| Accessories   | Item number       |
| Break glass unit with signal, plastic housing.<br>With data communication and input for smoke detector. Max. one break glass unit on each line.<br>Colour of the housing = x: red = 1, yellow = 2, grey = 3, blue = 4, orange = 5 | WSK 501 000x 01   |
| Break glass unit with signal, metal housing.<br>With data communication and input for smoke detector. Max. one break glass unit on each line.<br>Colour of the housing = x: yellow = 2, grey = 3, orange = 5                      | WSK 502 000x 01   |
| Break glass unit with signal, plastic housing.<br>With data communication. No input for smoke detector or keypad. Max five units per line.<br>Colour of the housing = x: red = 1, yellow = 2, grey = 3, blue = 4, orange = 5      | WSK 503 000x 01   |
| Break glass unit with signal, metal housing.<br>With data communication. No input for smoke detector or keypad. Max five units per line.<br>Colour of the housing = x: yellow = 2, grey = 3, orange = 5                           | WSK 504 000x 01   |
| Smoke detector  | WSA 300           |
| Rain sensor   | WLA 331           |
| Rain/wind sensor  | WLA 330           |
| End of line motor module with resistance  | WSA 510           |
| 10kΩ resistance, 10 pcs.  | WSA 501           |
| Fire Alarm System module  | WSA 306           |
| Cables for smoke ventilation – see separate product sheet for further information   | WLL 8xx           |