

FlexiSmoke™

WSC 520 / 540 / 560

Utilization examples

DK UK DE CH Other markets

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1 Example A - 1 WSC 520, 4 motor groups in 1 smoke zone

1.1 Description

Using one WSC 520 0ISS to control 4 Motor Groups in one Smoke Zone. 8 MotorLines, ±24V (standard) motors, in all. 2 motor lines are associated with each motor group.

All 4 motor groups are associated with the same smoke zone and each motor group is controlled by a comfort push-button.

2 comfort push buttons are connected to the break glass units and 2 are connected to input terminals on the WSA 5IO module.

The smoke zone fire alarm can be triggered from 2 break glass units and from a signal from the BMS system.

Smoke detectors are connected to the break glass unit.

Set-up overview:

- 1 Smoke zone
- 4 motor groups with 16 standard motors
 - e.g. 12 x WMX 823-3 (1A motor) max total 12A and 4 x WMU 862-1 (2A motor) max total 8A.
- 2 Break glass units
- 4 Keypads for comfort
- 2 smoke detectors

1.2 Hardware connection diagrams





1.3 Configuration
1.3.1 Start-up of the FlexiSmoke[™]
In order to configure the FlexiSmoke[™] it must be logged onto with third level rights.

| Ardware error No fire conditions Configuration Status Manual operation | Warning icon appears since motors, break glass units and comfort keypads have been connected but the panel is not yet configured. Press the "key" button |
|---|---|
| Please enter PIN PIN code 1 2 3 4 5 6 <= | |
| Please enter PIN PIN code 4321 1 2 3 4 5 6 <= | Enter the PIN code (4321) for level 3. Level 3 allows you to configure the smoke panel. Confirm the PIN code with check mark |
| 0.46 Login level 3 You have logged in at level 3. This level gives access to change the configuration, see status and control user functions. | Confirmation of which level you have logged on too. |

| 🔼 Hardware error | Press "Configuration" in order to start the configuration. | |
|------------------------------------|--|--|
| No fire conditions | | |
| Configuration | | |
| Status | | |
| Manual operation | | |
| • | | |
| 1.3.2 Configuration of motor lines | | |

| Configuration | Press "Motor line". |
|--|---|
| Motor line 🔼 | |
| Motor group | |
| Break glass unit 🔼 | |
| Smoke zone | |
| > | |
| Configuration, Motor line All S4 S4 S4 S5 S5 S5 S5 S5 S1 S1 S5 S5 S5 S5 S1 S1 S1 S1 S1 | Select the motor line to configure. In this example we select the S5:X1 (Slot 5, motor output #1) motor line. |
| 7 | |
| Configuration, Motor line, S5 X1 | Set the "Motor Configuration" |
| Motor type ±24V motor | |
| Motor configuration Not set | |
| Motor group – | |
| 2 | |
| Configuration, Motor line, S5 X1: Motor configuration | Select the cable monitoring type. |
| None No cable monitoring | |
| 3 wire cable 2 wire cable monitoring 2 | |
| Magnetic clamp Magnetic clamp, 3 w. surveillance | |
| Not set generator | |
| × < | |

| Configuration, Motor line, S5 X1: Motor configuration | In this set-up, select "no cable monitoring". |
|--|--|
| None No cable monitoring 🗸 | |
| 3 wire cable 2 wire cable monitoring | |
| Magnetic clamp Magnetic clamp, 3 w. surveillance | |
| Not set Pyrotechnic gas generator | Confirm with check mark. |
| × < | |
| Configuration, Motor line, S5 X1 | Set the stroke time (the "time to open" of the actuators |
| Motor type ±24V motor | connected on the motor line). |
| Motor configuration No cable | |
| Stroke time 60 s | |
| Motor group – | |
| > | |
| Configuration, Motor line, S5 X1: Stroke time | Enter the strake time in seconds |
| Stroke time 60 s | |
| 1 2 3 | |
| 4 5 6 <= | |
| 7 8 9 0 | |
| × < | |
| Configuration, Motor line, S5 X1: Stroke time | In this set-up, the stroke time is set to 50 seconds |
| Stroke time 50 s | |
| 1 2 3 | |
| 4 5 6 <= | |
| 7 8 9 0 | |
| × < | Confirm with check mark. |
| Configuration, Motor line, S5 X1 | Associate the motor line with a motor group. |
| Motor type ±24V motor | |
| Motor configuration No cable monitoring | |
| Stroke time 50 s | |
| Motor group – | |
| 2 | |

| Configuration, Motor line, S5 X1: Motor group | Coloct the motor group the motor line is to be possibled with |
|---|--|
| - 1 2 3 4 5 | Select the motor group the motor line is to be associated with. |
| 6 7 8 9 10 11 | |
| | |
| | |
| | |
| | |
| Configuration, Motor line, S5 X1: Motor or OUP | In this set-up, the motor line is associated with motor group 1. |
| - 1 [•] 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| XV | Confirm with check mark. |
| | |
| Configuration, Motor line, S5 X1 | Press the arrow down to get further options. |
| Motor type ±24V motor | |
| Motor configuration | |
| Stroke time 50 s | |
| Motor group | |
| > | |
| Configuration, Motor line, S5 X1 | |
| Manual command – auto. 30 min. | If required, change the "Retry during alarm" parameter to Yes. |
| Retry during alarm | Selecting yes will prompt the motor line to repeatedly attempt to reach the "Max stroke Alarm" position if it failed to do so in the |
| | first attempt. |
| ordaeuma courtor type Houre | |
| | |
| | |
| Configuration, Motor line, S5 X1: Retry durino alarm | In this set-up, we select "No". |
| No Yes | |
| | |
| | |
| | |
| × · | Confirm with check mark. |

| Configuration, Motor line All S4 S4 S4 S4 S5 S5 S5 S5 S1 S1 S2 S3 S4 S1 S1 | The first motor line has been configured and the warning icon has disappeared from the configured motor line. |
|--|--|
| Configuration, Motor line All S4 S4 S4 S4 S5 \$5 \$5 \$5 \$1 X1 X1 X1 \$5 \$5 \$5 \$1 X1 X1 X1 \$5 \$5 \$5 \$1 X1 X1 X1 | Continue to configure all motor lines. Note: Motor lines not in use must be configured with "Motor configuration" = "None" to clear the warning icons. |

1.3.3 Configuration of motor Groups

| <u> Config</u> uration | Press "Motor group". |
|-----------------------------------|---|
| Motor line | |
| Motor group | |
| Break glass unit | |
| Smoke zone | |
| D | |
| Configuration, Motor group | Select the motor group to be configured. |
| 1 2 3 4 5 6 | |
| 7 8 9 10 11 12 | |
| 13 | |
| | |
| D | |
| Configuration, Motor group, no. 1 | Associate the motor group no 1 with a smoke zone |
| Controlling smoke zone – | |
| Comfort open position 15% | |
| Comfort open close time 0 s | |
| Use 'safety' from smoke Yes | |
| 2 | Press "Return" to return to the motor group overview. |

| Configuration, Motor group, no. 1: Controlling smoke zone -1 2 3 4 5 6 7 8 9 10 11 12 13 Configuration, Motor group, no. 1: Controlling smoke zone -1^{1} 2 3 4 5 | Select the smoke zone. |
|--|---|
| 6 7 8 9 10 11 12 13 | Confirm with check mark. |
| Configuration, Motor group, no. 1 Controlling smoke zone 1 Comfort open position 15% Comfort open close time 0 s Use 'safety' from smoke Yes Zone Yes | |
| Configuration, Motor group 1 2 3 4 5 6 7 8 9 10 11 12 13 13 13 13 13 13 | Continue to associate all 4 motor groups with smoke zone 1. |
| 2 | Press "Return" to return to the main menu. |
| 1.3.4 Configuration of break gla | ass unit |
| <u> Config</u> uration | Press "Break glass unit" |
| Motor line | Troop Broak glado anit . |
| Motor group | |
| Break glass unit | |

↓

Smoke zone

4

| Configuration, Break glass unit | Select "All". |
|--|---|
| Configuration, Break glass unit Bus topology is ring Yes | This configuration applies to all the break glass units and specifies weather all break glass units are connected in a bus topology or not. |
| Configuration, Break glass unit: Bus topology is ring No Yes | In this setup the bus topology is not a ring topology. |
| Configuration, Break glass unit: Bus tonoloou is ring No Yes | Select "No". Confirm with check mark. |
| Configuration, Break glass unit Bus topology is ring No | Press "Return" to return to the previous menu. |

| Configuration, Break glass unit | Select break glass unit 1. |
|--|---|
| 2 | |
| Configuration, Break glass unit, no. 1 Serial number | The unique serial number of the selected break glass unit is shown. |
| Associated smoke zone? | Associate break glass unit 1 with a smoke zone. |
| Use comfort inputs in Yes | |
| Comfort motor group | |
| ▶ ↓ | |
| Configuration, Break glass unit, no. 1: Associated smoke zone | |
| - 1 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| × < | |
| Configuration, Break glass unit, no. 1: Associated smoke zone | Press 1 to associate the break glass unit with smoke zone 1. |
| - 1 [•] 2 3 4 5 | Ŭ |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | Confirm with check mark. |
| × < | |
| Configuration, Break glass unit, no. 1 | Set the "Use comfort inputs in S7" |
| Serial number 1027 | |
| Associated smoke zone 1 | |
| Use comfort inputs in Yes | |
| Comfort motor group – | |
| > | |

| Configuration, Break glass unit, no. 1: Use comfort inputs in smoke zone No Yes | In this set-up, we choose not to associate the comfort input with the smoke zone. We do not wish to operate all the motor groups, associated with this smoke zone, from this comfort input. |
|--|---|
| × < | |
| Configuration, Break glass unit, no. 1: Use comfort inputs in smoke zone No Yes | Confirm with check mark. |
| × · | |
| Configuration, Break glass unit, no. 1 Serial number 1027 | Select the motor groups to operate with this comfort input. |
| Associated smoke zone 1 Use comfort inputs in No Smoke zone Comfort motor group - | |
| Configuration, Break glass unit, no. 1: Comfort motor group12345678910111213 | In this set-up, we associate motor group 1 with this comfort input. |
| × · | Confirm with check mark. |
| Configuration, Break glass unit, no. 1 | Press arrow down to get further options. |
| Serial number1027Associated smoke zone1Use comfort inputs in smoke zoneNoComfort motor group1TI | |

| Configuration, Break glass unit, no. 1 | Cat "Kaynad Laanaar ana amaka zana" ta "Cama amaka zana" |
|--|--|
| Br.glass unit+sensor one Not used | It means that both the smoke detector and the red key in the break glass unit are triggering the alarm in the same smoke |
| Unit beep 1min for locating No | zone. |
| Delete this unit No | in this set-up, there is only one shoke zone. |
| | |
| | |
| Configuration, Break glass unit, no. 1: Br.glass unit+sensor one smoke zone | In this set up, the smake detectors and break glass upits are in |
| Not used Same smoke zone | the same smoke zone. |
| Other smoke zone | |
| | |
| | |
| | |
| \mathbf{X} | |
| Configuration, Break glass unit, no. 1: Br.glass unit+sensor one smoke zone | Confirm with chool/mork |
| Not used Same smoke zone | Commin with checkmark. |
| Other smoke zone | |
| | |
| | |
| | |
| × • | |
| Configuration, Break glass unit, no. 1 | |
| Br.glass unit+sensor one Same smoke | If you would like to identify the physical position of break glass unit 1, it is possible to have the break glass unit make a beep. |
| smoke zone zone | For this you need to activate the "Unit beep 1min for location". |
| Unit beep imin for locating NO | |
| Delete this unit No | |
| | |
| | |
| Configuration, Break glass unit, no. 1: Unit been 1min for location | Colort "voo" to optivate the base for 4 min |
| | Select "yes" to activate the beep for 1 min. |
| | |
| | |
| | |
| | |
| X V | |

| Configuration, Break glass unit, no. 1: Unit beep 1min for locating No Yes | Confirm with checkmark. |
|--|---|
| × · | |
| Configuration, Break glass unit | Continue to configure break glass unit 2 in the same way. |
| 2 | |

1.3.5 Configuration of smoke zones

| Configuration | To configure the smoke zone press "smoke zone". |
|----------------------------------|--|
| Motor line | |
| Motor group | |
| Break glass unit | |
| Smoke zone | |
| > | |
| Configuration, Smoke zone | Select the smoke zone to be configured |
| All 1 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| 2 | |
| Configuration, Smoke zone, no. 1 | The break class unit has a buzzer which sounds in case of |
| Reset higher priority than No | triggering or error. |
| Buzzer active during alarm Yes | "Buzzer active during alarm" allows you to activate or deactivate this function. |
| Controlled smoke zone – | Set the "Buzzer active during alarm" as required. |
| Error generates alarm No | |
| > | |

| Configuration, Smoke zone, no. 1: Buzzer active during alarm | |
|--|---|
| No Yes 🗸 | |
| × · | |
| Configuration, Smoke zone, no. 1: Buzzer active during alarm No Yes | In this set-up, we select "No". |
| × · | Confirm with check mark. |
| Configuration, Smoke zone, no. 1Reset higher priority than break glass unit (Line A)NoBuzzer active during alarmNoControlled smoke zone-Error generates alarmNo | Set the "Error generates alarm" as required. If you choose "Yes" the smoke zone alarm will be triggered whenever the unit detects en error. Note: If you have to choose "Yes" do it after you have finished configuring the unit and have resolved all errors indicated by it. |
| 2 | |

1.3.6 Configuration of local input

| Configuration | To configure local inputs, press arrow down to get more options. |
|----------------------|--|
| Motor line | |
| Motor group | |
| Break glass unit | |
| Smoke zone | |
| > | |
| Configuration | Press local input. |
| Local input | |
| Local output | |
| Weather station type | |
| weather station type | |
| CAN | |

| Configuration, Local input S3 S3 S3 S3 S3 S3 S3 S3 X1 X2.1 X2.2 X2.4 X2.5 X2.7 S3 S3 S4 S4 S4 S5 S5 X2.8 X3 S4 X5.1 X5.2 X5.1 X5.2 S1 S1 X2.1 X2.2 S1 X2.2 S1 X2.2 S1 X2.2 | Select input S1:X2.1 (Slot 1, Input X2.1) to configure the input receiving the alarm signal from the BMS. In this set-up, we have chosen input S1:X2.1, but anyone of the local inputs on the Input-/output module (WSA 5IO), power supply module (WSA 5PS) or the standard module (WSA 5SM) can be used. |
|---|--|
| Configuration, Local input, S1 X2.1 | Set the "control smoke zones". |
| Input type Binary | |
| Control smoke zones - | |
| Control motor groups – | |
| Active state On | |
| > | |
| Configuration, Local input, S1 X2.1: Control smoke zones | Colort the constrait encoder more which is to be consisted with |
| 1 2 3 4 5 6 | the local input. |
| 7 8 9 10 11 12 | |
| | |
| | |
| × < | |
| Configuration, Local input, S1 X2.1: Control smoke zones | In this setup smalks zone 1 is selected |
| 1 2 3 4 5 6 | In this setup shoke zone i is selected. |
| 7 8 9 10 11 12 | |
| | |
| | |
| × · | Confirm with check mark. |
| Configuration, Local input, S1 X2.1 | Set the "function in controlled smoke zones" |
| Input type Binary | |
| Control smoke zones 1 | |
| Function in controlled | |
| Active state On | 1 |
| > + | |

| Configuration, Local input, S1 X2.1: Function in controlled smoke zones | | S1 X2.1: ke zones | Select the function Lines A to E represent Alarm triggering with | |
|---|---|------------------------------|--|---|
| - | Line A | Line B | Reset | different priorities. |
| Line C | Line D | Line E | Line F | Line A has highest priority and it requires a Reset to deactivate. |
| Comfort stop | Comfort open | Comfort close | Comfort safety | With all other lines the alarm is only triggered while the signal is active. The alarm is deactivated when the signal is no longer active. No Reset is needed. |
| × | ✓ | | | For detailed description of the different lines see the FlexiSmoke™ WSC 520 / 540 / 560 installation instruction "section 13.5 Smoke zone". |
| Co Fu | nfiguration, nction in cor | Local input, Itrolled smo | S1 X2.1: ke zones | In this set-up "Line B" is selected. Other priorities can be |
| - | Line A | Line B | Reset | selected, e.g. "Line A" if required. |
| Line C | Line D | Line E | Line F | |
| Comfort stop | Comfort open | Comfort close | Comfort safety | |
| × | ✓ |] | | Confirm with check mark. |
| Control s | nfiguration, pe smoke zon in controlle | es | s1 x2.1 Binary 1 Line B | Set as required the "Active state", the state of the input that triggers an alarm. |
| Active s | tate | | On 📕 | |
| Co Ac | nfiguration, tive state Iff | Local input, | s1 x2.1: Dn | In this set-up, "On" is selected. This means that |
| × | Image: A start of the start of |] | | Confirm with check mark. |
| S3 S3 X1 X2 S3 X2.8 S1 X3 X2.8 X3 X2.8 X3 X2.8 X3 | S3 S4 S4 S5 S5< | | | Select input S3:X2.1 (Slot 3, input X2.1) to configure Open/Stop comfort commands to motor group 3. Note: Motor group 1 and 2 are operated by keypads connected to the 2 break glass units. |
| Ŋ |] | | | |

| Configuration, Local inp | out, \$3 X2.1 | Press "Control motor groups" to select the motor group. |
|--|-------------------------------|--|
| Input type | Binary | |
| Control smoke zones – | | |
| Control motor groups | - | |
| Active state | On | |
| 5 | Ŧ | |
| Configuration, Local ing Control motor groups | out, \$3 X2.1: | Select the motor group with which the comfort input $S3X21$ is |
| 1 2 3 4 | 56 | to be connected with. |
| 7 8 9 10 | 11 12 | |
| 13 | | |
| | | |
| × < | | |
| Configuration, Local inp | out, \$3 X2.1: | In this set up select motor group 2 |
| 1 2 3 4 | 5 6 | |
| 7 8 9 10 | 11 12 | |
| 13 | | |
| | | |
| × ✓ | | Confirm with check mark. |
| Configuration, Local inp | out, \$3 X2.1 | Press "Function in controlled motor arouns" to select the function |
| Input type | Binary | that will be applied to all motor lines in the motor group, when |
| Control motor groups | 2 | the input is activated. |
| Function in controlled motor groups | _ | |
| Short output function | - | |
| C | Ŧ | |
| Configuration, Local inp Function in controlled n | out, S3 X2.1: notor groups | Select "Open" |
| - | Open | |
| Close | Stop | |
| Safety Com | nfort open | |
| | | |
| × ✓ | | |

| Configuration, Function in con | Local input, S3 X2.1: trolled motor groups | Confirm with check mark. |
|--|---|---|
| - | Open | |
| Close | Stop | |
| Safety | Comfort open | |
| × ✓ |] | |
| Configuration, I Input type Control motor group Function in controlled motor groups Stop on release | Binary ps 2 d Open No | Setting the "Stop on release" parameter to "Yes" configures the Input to generate a "Stop" command when the Input is deactivated. The push button connected to the Input will function in this configuration as a "Keep" push button. In this example we choose not to use this option, but to generate a Stop command by a short activation of the Input. Press arrow down for further options. |
| Configuration, Short output func Active state Thresholds configura | Local input, \$3 X2.1 tion – On ation Switch | Press "short output function" to select the function that will be applied to all motor lines in the motor group, when the input is activated for a short time - as a standard less than 400 ms. If no function is being selected, activating the input will only apply the function selected under "Function in controlled motor groups", independently of how long the input is being activated. |
| 7 | 1 | |
| Configuration, Short output fu | Local input, S3 X2.1: Inction | Select "Stop". |
| - | Open | |
| Close | Stop | |
| Safety | Comfort open | |
| Configuration, Local input, S3 X2.1: Short output function | | Confirm with check mark. |
| - | Open | |
| Close | Stop | |
| Safety | Comfort open | |
| × ✓ |] | |

| Configuration, Local input, \$3 X2.1 | Press "Return". |
|--|---|
| Active state On | |
| Thresholds configuration Switch | |
| | |
| Configuration, Local input | Select S3:X2.2 (Slot 3, Input X2.2) to configure Close/stop comfort commands for motor group 2. |
| Continuention Local input 62.82.2 | |
| Input type Binary | Repeat the steps as just performed for S3:X2.1 for the other inputs. |
| Control smoke zones – | |
| Control motor groups – | |
| Active state On | |
| ▶ ↓ | |
| Configuration, Local input, S3 X2.2: Control motor groups 1 2 3 4 5 6 7 8 9 10 11 12 13 13 13 13 13 13 10 11 12 | |
| × < | |
| Configuration, Local input, S3 X2.2: Function in controlled motor groups | Press "Function in controlled motor arouns" to select the function |
| – Open | that will be applied to all motor lines in the motor group, when |
| Close Stop | Put this time coloct "Cloce" rather than "Ones" |
| Safety Comfort open | Dut this time select Close rather than Open. |
| × • | |

| Configuration, Local input, S3 X2.2: Function in controlled motor groups | Confirm with check mark. |
|---|--|
| – Open | |
| Close Stop | |
| Safety Comfort open | |
| × · | |
| Configuration, Local input, S3 X2.2 | Press arrow down. |
| Input type Binary | |
| Control motor groups 2 | |
| Function in controlled Close | |
| Stop on release No | |
| 2 | |
| Configuration, Local input, S3 X2.2 Short output function Active state On Thresholds configuration Switch Configuration, Local input, S3 X2.2 Active state On Thresholds configuration Switch | Press "short output function" to select the function that will be applied to all motor lines in the motor group, when the input is activated for a short time (standard less than 400 ms), e.g. a stop command in above mentioned automatic mode. If no function is being selected, activating the input will only apply the function selected under "Function in controlled motor groups", independently of how long the input is being activated. Select "Stop". Confirm with checkmark Press return arrow. |
| Configuration, Local input S3 S3 S3 S3 S3 S3 S3 X1 X2.1 X2.2 X2.4 X2.5 X2.7 S3 S3 S4 S4 S5 S5 X2.8 X3 X5.1 X5.2 X5.1 X5.2 S1 S1 X2.1 X2.2 | To configure the input S3:X2.4 and X2.5 (Slot 3, input X2.4 and X2.5), to apply to motor group 4 repeat the steps as carried out with S3:X1 and X2, only setting "Control motor groups" to 4 . |

| Configuration | The Smoke panel is now configured according the above described specification and is ready for operation. |
|----------------------|---|
| Local input | |
| Local output | |
| Weather station type | |
| CAN | |
| | |

2 Example B – 1 WSC 520, 4 motor groups in 1 smoke zone – KNX

2.1 Description

Using the WSC 520 KIMM to control 4 motor groups in 1 smoke zone. 8 MotorLink[®] motor lines in all, 2 motor lines are associated with each motor group.

All 4 motor groups are associated with the same smoke zone and each motor group is controlled for comfort from KNX.

The smoke zone fire alarm can be triggered from 2 break glass units with a smoke detector connected to each, as well as from the BMS system.

Set-up overview:

- 1 Smoke zone
- 4 motor groups with 16 MotorLink® motors
 - e.g. 12 x WMX 823-3 (1A motor) max total 12A and 4 x WMU 862-1 (2A motor) max total 8A.
- 2 Break glass units
- 4 Keypads for comfort are connected via the KNX bus.
- 2 smoke detectors

See example A for illustration of the room/building overview.

2.2 Hardware connection diagram





2.3 Configuration

See example A for login settings as well as configuration of the motor groups and the local input receiving the alarm signal from the BMS.

2.3.1 Configuration of motor lines

| A Hardware error | Press Configuration to start configuration of the smoke panel. |
|--|--|
| | |
| Configuration | |
| Status | |
| Manual operation | |
| ۰ | |
| | |
| Configuration | Select Motor line. |
| Configuration Motor line | Select Motor line. |
| Configuration Motor line Motor group | Select Motor line. |
| Configuration Motor line Motor group Break glass unit | Select Motor line. |
| Configuration Motor line Motor group Break glass unit Smoke zone | Select Motor line. |

| Configuration, Motor line All S4 A S4 S4 S5 A S5 S5 S5 S1 A S2 S3 S4 S1 A | Select the motor line to be configured. In this case, the S4.X1 (Slot 4. Motor output #1) is green because the motor has been connected and closed. |
|--|---|
| Configuration, Motor line, S4 X1 | Press "expected no. of motors" |
| Motor type MotorLink™ | |
| Expected no. of motors Not set | |
| Motor group – | |
| 2 | |
| Configuration, Motor line, S4 X1: Expected no. of motors | Select the number of motors connected to the motor line and |
| None 1 2 3 | confirm with check mark. |
| 4 Magnetic clamp Not set Auto. detec. | FlexiSmoke [™] will discover the number of motors connected on the motor line. If no error is detected FlexiSmoke [™] will set the value of the parameter to the number of the expected motors. If a discrepancy is detected between the expected and the found number of motors, FlexiSmoke [™] will show the "No. of found motors". This is an error state that needs resolving. The problem is often with cabling and installation boxes between the FlexiSmoke [™] and the motors. |
| Configuration, Motor line, S4 X1: Expected no. of motors | Note; if no motors are discovered the FlexiSmoke™ will set the |
| None 1 2 3 | value to "None" and will <u>not</u> report an error. |
| 4 Magnetic clamp Not set | |
| Auto. detec. | |
| × • | |
| Configuration, Motor line, S4 X1 | To associate the motor line with a motor group press "Motor |
| Motor type MotorLink™ | group". |
| Expected no. of motors 1 | |
| Motor group – | |
| motors None | |
| 2 | |

| Configuration, Motor line, S4 X1: Motor group | |
|---|--|
| - √ 1 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| , <u></u> _ | |
| × < | |
| Configuration, Motor line, S4 X1: Motor oroup | Select the motor group |
| - 1 [•] 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| X 🗸 | Confirm with check mark. |
| Configuration Motor line S4 X1 | |
| Motor type Motor ink ^M | Set the "Expected no. of locking motors" to "None". Confirm with check mark. |
| Eurostad pa of maters | To e.g. alter the speed press arrow down |
| Meter group | To e.g. alter the speed press arrow down. |
| Expected no. of locking | |
| motors | |
| | |
| Configuration, Motor line, S4 X1 | Alter the manual or automatic speed as required. |
| Manual speed 75% | The faster motors are running the louder they sound. WMa recommends running motors in Auto. with 30% speed to reduce |
| Auto. speed 30% | noise to a minimum. |
| Manual command - auto. 30 min. | |
| Retry during alarm No | |
| | |
| Configuration, Motor line, S4 X1: Manual speed | In this setup we increase the manual speed from 75% to 90% by |
| Manual speed 75% | pressing "+1" and "+10". |
| +1 +10 Max. | |
| -1 -10 Min. | |
| | |
| × < | |

| Configuration, Motor line, S4 X1: Manual speed | When the required speed has been set confirm with check mark |
|--|---|
| Manual speed 90% | when the required speed has been set commit with check mark. |
| +1 +10 Max. | |
| -1 -10 Min. | |
| | |
| × < | |
| Configuration, Motor line, S4 X1 | Alter the "Manual command – auto off period" if required. |
| Manual speed 90% | This is the manual override time in which the FlexiSmoke™ |
| Auto. speed 30% | ignores auto. commands to the motor line. |
| Manual command - auto. 30 min. | |
| Retry during alarm No | |
| | |
| Configuration, Motor line, S4 X1: Manual command - auto, off period | |
| Manual command – auto. 30 min. | |
| 1 2 3 | |
| 4 5 6 <= | |
| 7 8 9 0 | |
| × · | |
| Configuration, Motor line, S4 X1: | |
| Manual command - auto. off period Manual command - auto. | In this set-up, we choose to set the "manual command – auto off period" to 25min. |
| off period | |
| | |
| | |
| | Confirm with check mark. |
| | |
| Configuration, Motor line, S4 X1 | Press arrow down for further options. |
| Manual speed 90% | |
| Auto. speed 30% | |
| off period | |
| Retry during alarm No | |
| > † + | |

| Configuration, Motor line, | S4 X1 | The "Max, unexpected over current" should be set to 0 after the |
|---|------------|---|
| Max. unexpected 25 | 55 | ML has been opened and closed 5 times and after you ensured that the windows are properly closed |
| Max. unexpected |) | that the windows are properly closed. |
| Sequential control type | ne | Closing the motor line 5 times gets the motors to establish their Zero (closed) position. Setting the parameter to 0 ensures that |
| | | the motors will never change their Zero position and always |
| | | report an error if they receive the command but cannot reach their closed position. |
| | | |
| Configuration, Motor line, S4 X1 unexpected overcurent | 1: Max. | Confirm with check mark. |
| Max. unexpected overcurent | 0 | |
| 1 2 3 | | |
| 4 5 6 | <= | |
| 7 8 9 | 0 | |
| | _ | |
| | | |
| Configuration, Motor line, | S4 X1 | |
| Max. unexpected C |) | |
| Sequential control type No | ne | |
| | | |
| | | |
| | | |
| | | |
| | c5 🔼 | Configure the rest of the motor lines in the same way. |
| All X1 X2 X3 X4 X4 | 83 🔼 81 | |
| 85 🕰 85 🕰 85 🕰 81 🕰 82 X3 X4 X1 | | |
| | | |
| | | |
| 2 | | |
| Configuration, Motor line | | Once all the motor lines have been configured the warning icons |
| All S4 S4 S4 S4 S4 X1 X2 X3 X4 | S5 X1 | will disappear. |
| S5 S5 S5 S1 83 X3 X4 X1 | $ \neg$ | |
| | | |
| | | |
| | | |
| | | |

| Configuration | Press break glass unit. |
|--|---|
| Motor line | |
| Motor group | |
| Break glass unit 🔼 | |
| Smoke zone | |
| > | |
| Configuration, Break glass unit | Select "All" |
| 2 | |
| Configuration, Break glass unit Bus topology is ring Yes | This configuration applies to all the break glass units and specifies weather all break glass units are connected in a bus topology or not. |
| Configuration, Break glass unit: Bus topology is ring No Yes | In this setting we select "No" for the CAN bus technology. Confirm with check mark. |
| Configuration, Break glass unit | Select break glass unit 1 for further configuration. |
| D | |

2.3.2 Configuration of break glass unit

| Configuration, Break glass unit, no. 1 | Associate the break glass unit with the smoke zone. |
|---|---|
| Serial number 1027 | |
| Associated smoke zone - ? | |
| Use comfort inputs in Smoke zone Yes | |
| Comfort motor group – | |
| > | |
| Configuration, Break glass unit, no. 1: Associated smoke zone | |
| - 1 2 3 4 5 | |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| × < | |
| Configuration, Break glass unit, no. 1: Associated smoke zone | Proce 1 to associate the brook class unit with smoke zone 1 |
| - 1 ^V 2 3 4 5 | riess i to associate the break glass thit with shoke zone i. |
| 6 7 8 9 10 11 | |
| 12 13 | |
| | |
| × < | Confirm with check mark. |
| Configuration, Break glass unit, no. 1 | Set the "Lise comfort inputs in S7" |
| Serial number 1027 | |
| Associated smoke zone 1 | |
| Use comfort inputs in Yes | |
| Comfort motor group – | |
| 2 | |
| Configuration, Break glass unit, no. 1: Use comfort inputs in smoke zone | In this set-up, we choose not to associate the comfort input with |
| No Yes 🗸 | the smoke zone. |
| | this smoke zone, from this comfort input. |
| | |
| | |
| × < | Confirm with check mark. |

| Configuration, Break glass unit, no. 1: Use comfort inputs in smoke zone | Confirm with check mark. |
|--|---|
| No Yes | |
| | |
| | |
| × < | |
| Configuration, Break glass unit, no. 1 | Press arrow down for further options. |
| Serial number 1027 | |
| Associated smoke zone 1 | |
| Use comfort inputs in No | |
| Comfort motor group | |
| | |
| Rr glass unit+sepsor one | Set "Keypad + sensor one smoke zone" to "Same smoke zone". |
| smoke zone Not used | break glass unit are triggering the alarm in the same smoke |
| Delete this unit | In this set-up, there is only one smoke zone |
| | |
| | |
| Configuration, Break glass unit, no. 1: Br.glass unit+sensor one smoke zone | |
| Not used 🖌 Same smoke zone | |
| Other smoke zone | |
| | |
| | |
| | |
| Configuration, Break glass unit, no. 1: Br.glass unit+sensor one smoke zone | In this set-up, the smoke alarms and the break glass units are in |
| Not used Same smoke zone | |
| | |
| | |
| × < | Confirm with check mark. |

| Configuration, Break glass unit, no. 1 Br.glass unit+sensor one smoke zone Unit beep 1min for locating | |
|---|--|
| Delete this unit No | |
| Configuration, Break glass unit | Configure break glass unit 2 with the same values as break glass unit 1. |
| 7 | |

2.3.3 Configuration of smoke zone

| Configuration | Press "Smoke zone". |
|---|---------------------------------------|
| Motor line | |
| Motor group | |
| Break glass unit | |
| Smoke zone | |
| > | |
| Configuration, Smoke zone All 1 2 3 4 5 6 7 8 9 10 11 12 13 4 5 5 5 | Select smoke zone 1 |
| 5 | |
| Configuration, Smoke zone, no. 1 | Press arrow down for further options. |
| Reset higher priority than break glass unit (Line A) | |
| Buzzer active during alarm Yes | |
| Controlled smoke zone – | |
| Error generates alarm No | 1 |
| > | |

| Configuration, Smoke zone, no. 1 | Sat "Line P (smoke detector) smoke opening nos " |
|--|---|
| Line B (smoke detector) 100% | Set Line B (shoke detector) shoke opening pos. |
| smoke opening pos. | In most cases windows must open 100% in Alarm but there are cases where window must be closed (0%) when the smoke |
| Use comfort commands from | detectors trigger the alarm. |
| slaves | |
| Wind direction speed 1.0 m/s | |
| | |
| Configuration, Smoke zone, no. 1: Line B (smoke detector) smoke opening p | Reduce the "Line B (smoke detector) smoke opening pos" from |
| Line B (smoke detector) 100% | 100% to 0% by pressing either "-10" or "Min.". |
| +1 +10 Max | |
| | |
| | |
| | |
| × • | |
| Configuration, Smoke zone, no. 1: Line B (smoke detector) smoke opening p | |
| Line B (smoke detector) | Confirm with check mark. |
| smoke opening pos. | |
| +1 +10 Max. | |
| 110 Min₊ | |
| | |
| × < | |
| Configuration, Smoke zone, no. 1 | |
| Line B (smoke detector) | Set the "Use comfort commands" to "No". |
| Use comfort commands Yes | |
| Use comfort commands from Vec | |
| Slaves res | |
| threshold 1.0 m/s | |
| | |
| Configuration, Smoke zone, no. 1: Use comfort commands | |
| No Yes V | |
| | |
| | |
| | |
| | |
| X V | |

| Configuration, Smoke zone, no. 1: Use comfort commands No Yes | Confirm with check mark. |
|---|--------------------------|
| | |
| Line B (smoke detector) smoke opening pos. | |
| Use comfort commands from Yes Slaves Wind direction speed 1.0 m/s | |
| | |

2.3.4 KNX configuration

This Manual assumes that you are familiar with KNX and have experience working with ETS4. Only FlexiSmoke[™] specific topics are covered here.

- 1. Import the ETS4 application of the FlexiSmoke[™] (WSA 5MC KNX.knxprod), as well as the ETS application of the push-button of your choice, into your ETS. The ABB US/U2.2 Universal Interface is used in this example.
- 2. Create a Project and add one FlexiSmoke[™] device and 4 push-button devices to it.
- 3. Set the FlexiSmoke[™] parameters as follows:

| Device: 1.1.200 WSC1.1 - WSC 5xx | _ | |
|----------------------------------|------------------------|-----------|
| General | Slot 3 module type | 510 🔹 |
| | Slot 4 module type | SML / SSM |
| | Slot 5 module type | 5ML / 5SM |
| | Number of motor groups | 4 |
| | Number of smoke zones | 1 |
| | | |

4. Set the parameters of the Push-buttons corresponding to the following. The device must be able to send values when keypads are pressed.

An Open Command = 127, a Close command = 129, a Stop Command = 0.

| General | | Value (ferred execution | | | |
|-----------|---|--------------------------|--|--|--|
| Channel A | Function of the channel | Value / forced operation | | | |
| Channel B | Connected contact type | normally open 🔹 | | | |
| | Distinction between long and short operation | yes 🔹 | | | |
| | Reaction on short operation | 1-byte-value [0255] | | | |
| | Transmitted value [0255] | 0 | | | |
| | Reaction on short operation | 1-byte-value [0255] | | | |
| | Transmitted value [0255] | 127 | | | |
| | Long operation after: Base | 100ms • | | | |
| | Factor [1255] | 4 | | | |
| | Debounce time | 50ms debounce time 🔹 | | | |

| General Channel A | Function of the channel | Value / forced operation |
|----------------------|---|--------------------------|
| Channel B | Connected contact type | normally open 🔹 |
| | Distinction between long and short operation | yes 🔹 |
| | Reaction on short operation | 1-byte-value [0255] |
| | Transmitted value [0255] | 0 |
| | Reaction on short operation | 1-byte-value [0255] |
| | Transmitted value [0255] | 129 |
| | Long operation after: Base | 100ms • |
| | Factor [1255] | 4 |
| | Debounce time | 50ms debounce time 🔹 |

 Create a Group Address for each motor group (MG) and associate the FlexiSmoke[™] MG_0x_Hand_relative_position communication object { } with the relevant push-button device communication objects.

Depending on the push-button device you use, the populated Group Addresses for the 4 motor groups should look similar to this:

| G | roup Addresses 🔻 | | | đ | 3 | ا ۲ | > | 5 |
|---|----------------------------|------------|--|---|------|------|------|---|
| 4 | 🖬 Group Addresses | | Object 🔺 | Device | | _ | | |
| ⊳ | 🖗 Dynamic Folders | \bigcirc | 7/2/0 Z1-S1 | | | | | |
| ⊳ | 🞛 0 CommonData | ∎‡ | 1: Input A -short - Telegr. value [0255] | 1.1.20 Z01-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| ⊳ | 🎛 1 ZoneData | ∎₹ | 2: Input A -short - Telegr. value [0255] | 1.1.20 Z01-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| ⊳ | 🞛 2 WEADataWEC1-128 | ∎₹ | 2: MG_01_Hand_relative_position - Hand | 1.1.200 WSC1.1 - WSC 5xx | | | | |
| ⊳ | 🞛 3 MotorLineDataWEC1-32 | ∎‡ | 8: Input B -short - Telegr. value [0255] | 1.1.20 Z01-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| ⊳ | 🞛 4 MotorLineDataWEC33-64 | ∎₹ | 9: Input B -long - Telegr. value [0255] | 1.1.20 Z01-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| Þ | 🞛 5 MotorLineDataWEC65-96 | \bigcirc | 7/2/1 Z2-S1 | | | | | |
| ⊳ | 🔀 6 MotorLineDataWEC97-128 | ∎₹ | 1: Input A -short - Telegr. value [0255] | 1.1.21 Z02-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| 4 | 🔀 7 ManualControl | ∎₹ | 2: Input A -short - Telegr. value [0255] | 1.1.21 Z02-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| | 盟 7/0 Move | ∎₹ | 7: MG_02_Hand_relative_position - Hand | 1.1.200 WSC1.1 - WSC 5xx | | | | |
| | 器 7/1 Step | ∎‡ | 8: Input B -short - Telegr. value [0255] | 1.1.21 Z02-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| 4 | 器 7/2 HandPositionValue | ∎₹ | 9: Input B -long - Telegr. value [0255] | 1.1.21 Z02-S1 US/U2.2 Universal Interfa | ce, | 2-fo | d, F | М |
| | 🔀 7/2/0 Z1-S1 | \bigcirc | 7/2/2 Z3-S1 | | | | | |
| | 🔀 7/2/1 Z2-S1 | ∎₹ | 1: Input A -short - Telegr. value [0255] | 1.1.22 Z3-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| | 🔀 7/2/2 Z3-S1 | ∎₹ | 12: MG_03_Hand_relative_position - Hanc | 1.1.200 WSC1.1 - WSC 5xx | | | | |
| | 🔀 7/2/3 Z4-S1 | ∎₹ | 2: Input A -long - Telegr. value [0255] | 1.1.22 Z3-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| ⊳ | 🔀 9 WSCData | ∎₹ | 8: Input B -short - Telegr. value [0255] | 1.1.22 Z3-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| ⊳ | 🞛 10 SmokeZoneData | ∎₹ | 9: Input B -long - Telegr. value [0255] | 1.1.22 Z3-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| ⊳ | 🔀 11 MLDataWSC1-7 | \bigcirc | 7/2/3 Z4-S1 | | | | | |
| ⊳ | 🔀 12 MLDataWSC8-14 | ∎₹ | 1: Input A -short - Telegr. value [0255] | 1.1.23 Z4-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| 4 | 🔀 13 MGDataWSC | ∎‡ | 17: MG_04_Hand_relative_position - Hanc | 1.1.200 WSC1.1 - WSC 5xx | | | | |
| Þ | 器 13/0 MGMaxPositionCom | ∎₹ | 2: Input A -long - Telegr. value [0255] | 1.1.23 Z4-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| Þ | 器 13/1 MGAutoPositionCom | ■ ‡ | 8: Input B -short - Telegr. value [0255] | 1.1.23 Z4-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |
| Þ | 器 13/2 MGHandCommandAb | ∎‡ | 9: Input B -long - Telegr. value [0255] | 1.1.23 Z4-S1 US/U4.2 Universal Interfac | e,4- | fold | FM | |

6. Program the FlexiSmoke[™] and push-buttons with ETS.

When the FlexiSmoke[™] does not show any more errors, it is configured and ready for operation.

3 Example C – 1 WSC 520, 3 motor groups in 1 smoke zone and rain sensor

In contrast to example A and B, does example C not include screen shorts of the different configuration steps, but only a short description of what is to be configured. For a more detailed description of how to carry out the configuration, please refer to example A and/or B.

3.1 Description

Using the WSC 520 KIMM to control 3 motor groups in 1 smoke zone.

8 MotorLink[®] motor lines in all, 2 motor lines, running façade windows, each façade is associated with 1 motor group. 4 motor lines, running roof windows, are associated with the third motor group.

All 3 motor groups are associated with the same smoke zone and each motor group is controlled for comfort by a keypad.

The smoke zone fire alarm can be triggered from a break glass unit, from 3 Smoke Detectors connected directly to the 5IO module as well as by a signal from the BMS system.

An Error is being signalled to the BMS whenever there is an error/failure in the smoke zone.

A Rain sensor is triggering a 'Safety' signal for closing the roof windows.

Set-up overview:

- 1 Smoke zone
- 3 motor groups with 16 MotorLink[®] motors
 - e.g. 12 x WMX 823-3 (1A motor) max total 12A and 4 x WMU 862-1 (2A motor) max total 8A.
 - 1 Break glass units
- 3 Keypads for comfort
- 1 Rain sensor

3.2 Hardware configuration diagram





3.3 Configuration

See Example 2 for the configuration of the MotorLines, the Motor Groups, the keypads, the alarm signal from the BMS and the Smoke Zone with its Break Glass Unit.

3.3.1 Configuration of local output 3.3.1.1 Configuration of error signal to the BMS

To start the configuration of the local output signal:

| Press: "Configuration" \rightarrow "(error down)" \rightarrow "Local Output" |
|--|
| Select "S3, X4.1/2" |
| Set the "Output mode" to "Binary output" |
| Set the "Controlled by smoke zones" to "1" |
| Press the "Smoke zone output function" "" and select "Any error" |
| |

3.3.2 Configuration of local input

3.3.2.1 Configuration of Rain Safety signal

To start the configuration of the local input signal:

Press "Configuration" \rightarrow "error down" \rightarrow "Local Input" Select "S1 X2.2" to configure the digital input connected to the Rain sensor. Make sure nothing is selected in the "Control smoke zones". Press "Control motor groups" <> and select "Motor Group 3".

Press ""Function in controlled motor groups" <> and select "Safety".

Activating the input signal will now send a "Safety" signal to MotorGroup 3 - the roof windows.

In the "View all details" \rightarrow "Motor group" \rightarrow "3" you can set the "Comfort safety maximum position" in %. Default position is 0%.

3.3.2.2 Configuration of smoke sensors

To start the configuration of the local input signal:

Press "Configuration" \rightarrow "error down" \rightarrow "Local Input"

Select "S3 X1" to configure the input of the Smoke detectors.

Press "Control smoke zones <> and select 1.

Press "Function in controlled smoke zones" <> and select "Line B".

"Line B" (fire alarm priority B) is normally used with Smoke detectors but you should consult the buildings smoke ventilation strategy document to determine the appropriate function (priority) for the specific building.

4 Example D – 1 WSC 540, 5 motor groups in 1 smoke zone, rain, wind direction and wind speed sensors, configured for wind direction dependent smoke ventilation

4.1 Description

Using a WSC 540 KIMM KMM0 to control 5 motor groups in 1 smoke zone.

2 motor lines, running façade windows, each façade is associated with 1 motor group.

4 motor lines, running roof windows, are associated with the 2 motor groups, one e.g. facing north and the other facing south.

1 motor line, which runs internal dampers is associated with the fifth motor group.

The motor lines running the façade windows and the internal dampers are connected to section 1 of the WSC 540 panel. The motor lines running the roof windows are connected to section 2 of the panel.

The building requires only one smoke zone that we here will call **Smoke area 1**. To create the smoke area we have to establish a Master-Slave relation between a smoke zone (e.g. Smoke Zone 1) in section 1 and a smoke zone in section 2 (e.g. Smoke Zone 5).

The weather station sensors are connected to section 2 while the Break Glass Unit is connected to section 1.



4.1 Hardware configuration diagram



4.2 Configuration

See previous examples for the configuration of the motor lines, motor groups, break glass unit, comfort keypads and BMS.

4.2.1 Configuration of the CAN bus

To configure the CAN bus

In section 1

| Press "Configuration" \rightarrow "arrow down" \rightarrow "CAN" | |
|--|--|
| Set the "MC ID" = 1 | |
| Set the "CAN bus mode" = "Independent buses" | |
| socian 2 | |

In section 2 Press "Configuration" → "arrow down" → "CAN"

```
Set the "MC ID" = 2
```

Set the "CAN bus mode" = "Independent buses"

4.2.2 Configuration of Smoke area 1

In section 1 associate

- a. motor line S4.x1 with motor group 1.
- b. motor line S5.x2 with motor group 2.
- c. motor line S5.x3 with motor group 3.
- d. motor groups 1, 2 and 3 with smoke zone 1.
- e. The break glass unit with smoke zone 1.

In section 2 associate

- a. motor line S3.x1 and 3.x2 with motor group 1.
- b. motor line S4.x1 and 4.x2 with motor group 2.
- c. motor groups 1 and 2 with smoke zone 5.

See previous examples for how to associate motor line with motor groups and motor groups with smoke zones.

Master-Slave configuration:

In section 2

Press "Configuration" \rightarrow "Smoke zone" \rightarrow "5" \rightarrow "arrow down" \rightarrow "Slave 1 of this smoke zone"

Select "1" to select section ID 1 \rightarrow "1" again, to select smoke zone 1 on section 1

Smoke area 1 is now configured with Section 2, smoke zone 5 as a Master of Section 1 smoke zone 1.

4.2.3 Configuration of wind direction dependent smoke ventilation

We want all façade windows to open independent of the wind direction but the roof windows should only open if the wind is not coming from the direction the windows are facing. Roof windows, facing north, must close if the wind is from a northerly direction. Otherwise, they must open. In section 2, motor group 1 is facing south and motor group 2 is facing north.

Press "Configuration" \rightarrow "Motor group" \rightarrow "1" \rightarrow "arrow down" \rightarrow "Wind direction where to close during alarm"

Select "165°", "180°" and "195°"

Press "Configuration" \rightarrow "Motor group" \rightarrow "2" \rightarrow "arrow down" \rightarrow "Wind direction where to close during alarm"

Select "345°", "0°" and "15°"

4.2.4 Configuration of weather station sensors

All weather station sensors are connected to the WSC 540, section 2 in this example.

4.2.4.1 Configuration of the wind direction and wind speed sensors

Consult paragraph 10.2 in the WSC 5xx installation instructions for how to install the WOW 201, WOW 202 and WOW 204 wind sensors.

Press "Configuration" \rightarrow "arrow down " \rightarrow "Weather station type" Set "Sensor type" = "WOW"

4.2.4.2 Configuring the Input of the Rain signal

To propagate the Rain Safety signal, from one section of the WSC to another, the input of the signal is associated with a smoke zone and a Master-Slave relation is used among all smoke zones, with motor lines that we want to react, to this Safety signal. In this example, the Rain signal Input on section 2, is associated with smoke zone 5. The signal will then be propagated to the motor lines associated with Section 1, smoke zone 1.

The motor line S5.x2 in Section1, which is running the internal dampers, is configured not to react to the Rain Safety signal.

In section 2

| Press "Configuration" \rightarrow "Local Input" \rightarrow "S1.x2.1" |
|---|
| Set "Control smoke zones" = "5" |
| Set "Function in controlled smoke zone" = "Comfort safety" |

In section 1

Press "Configuration" \rightarrow "Motor group" \rightarrow "3" selecting the motor group associated with motor line S5.x2. Set "Use 'Safety' from smoke zone" = "No"

The WSC 540 KIMM KMM0 is now configured and ready for use.

5 Example E – 2 WSC 540, 4 motor groups in 3 smoke zones, Master-Slave and Controlling/Controlled smoke zone configuration

5.1 Description

In a building with a large atrium, all the atrium roof windows must open in case of fire. The façade windows must open only in the part of the building, which is on fire.

Due to cable length limitation, half of the atrium windows are connected to one smoke panel (WSC1), which is located in one part of the building. The other half of the windows are connected to another smoke panel (WSC2), which is located in the other side of the building.

We are using two pcs. WSC 540 0SS0 0SS0 E3 to implement the required system.

Since the windows in the atrium are connected to two different smoke panels, the smoke zones with the atrium windows will be implemented as a Master-Slave configuration, enabling the possibility of creating a smoke area.

The two smoke zones, controlling the façade windows in each part of the building, will both be configured as controlling zones of the atrium smoke zones. When activated the façade smoke zone, can then trigger the atrium smoke zones.

5.2 Hardware connection diagram





5.3 Configuration

A detailed description of how to use the touchscreen, to configure the different elements (motor lines, motor groups, break glass units, comfort keypads, BMS, rain sensors, weather station etc.), can be found in the previous examples.

In this example, we will only go through what needs to be done in order to meet the system requirements and explain the reasons for the selected configuration.

5.3.1 Configuration of the CAN bus

The CAN ID of a section on a CAN bus, must be unique. Configure, therefor the CAN IDs as follows:

WSC1.Section1 = 1 WSC1.Section2 = 2 WSC2.Section1 = 3 WSC2.Section2 = 4

5.3.2 Basic configuration

Associate motor lines to motor groups, motor groups to smoke zones and break glass units to smoke zones as shown in the hardware illustration above.

5.3.3 Configuration of smoke area 1

The atrium windows are controlled by smoke zone 2 of section 2 of WSC1 and by smoke zone 2 of section 2 of WSC2. To create Smoke area 1, it is necessary to establish a Master-Slave relation between the two smoke zones.

Configure smoke zone 2 in WSC1.Section 2 to be the Master of smoke zone 2 in WSC2.Section 2

5.3.4 Configuration of Controlling/Controlled smoke zone relation

To make it possible for the façade smoke zones to trigger the atrium's smoke area, but not the other way around, we have to use the Controlling/Controlled relation. In this relation, messages go from the controlling zone to the controlled zone but not the other way.

The Controlling/Controlled relation can only be established between zones in the same section and not between zones from different sections. It is therefore necessary to add 2 'virtual' smoke slave zones to smoke area 1. We call these zones virtual, because they do not have any hardware associated with them. They are only needed to be able to establish the Controlling/Controlled relation between the façade smoke zones and the atrium smoke area 1.

5.3.4.1 Configuring 'virtual' slave smoke zones

Configure smoke zone 2 in WSC1.Section 2 to be the master of: Smoke zone 13 in WSC1.Section 1 (virtual zone) Smoke zone 13 in WSC2.Section 1 (virtual zone)

Smoke zone 2 in WSC1.Section 2 has now three slaves.

- Smoke zone 13 in WSC1.Section 1 (virtual zone)
- Smoke zone 13 in WSC2.Section 1 (virtual zone)
- Smoke zone 2 in WSC2.Section 2 (actual zone)

5.3.4.2 Configuring Controlling/Controlled relation

Configure Smoke zone 1 in WSC1.Section1 to control smoke zone 13 in the same section. Configure Smoke zone 1 in WSC2.Section1 to control smoke zone 13 in the same section.

In WSC1.Section1

Press "Configuration" → "Smoke zone" → "1" "Controlled smoke zone" Set "Controlled smoke zone" = "13" Set "Function in target smoke zone" = "Line A" and "Reset"

Repeat the configuration in WSC2.Section1

The system is now configured and is ready for operation.

6 List of abbreviations

| BGU | Break glass unit |
|-----|----------------------------|
| BMS | Building management system |
| MG | Motor group |
| SZ | Smoke zone |
| ML | Motor line |
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