1 Concept of Control Centre

- Smoke and Heat Exhaust Ventilation System (SHEVS) Control Centre with four outputs for the connection of 24 V- actuators
- VdS approved (to VdS 2581 and VdS 2593)
- Internal power supply designed and certified to DIN EN 12101-10
- Control unit designed and tested to prEN 12101-9
- Selectable group configuration: one or two SHE groups, up to four ventilation groups
- For every SHE group, two signal lines:
  - Line : automatic fire detectors
  - Line : manual call points **RT 2** as
    a) Main alarm point with indicators operation OK, alarm , malfunction ⚠ and button *Reset* . Connection of main alarm point with mini buzzer (alarm / malfunction) and indication of position also possible
    b) Secondary alarm point with indicator alarm
- Line F for connection of a Fire Alarm Control Panel (FACP)
- Reset the alarm / detector using the button in the main alarm point or in the Control Centre
- Selectable functions:
  - "Thermal alarm" (alarm on exceeding an enclosure inside temperature of 70 °C)

  Selectable for each SHE group:
  - "Malfunction = Alarm" (alarm upon malfunction of a signal line)
  - "2-detector-dependency" (2-detector-dependency for automatic fire detectors in line)

  Selectable for each actuator output:
  - "Auto close" (automatic closure after resetting an alarm)
  - "WRC" (automatic closure for active Wind and Rain Control)
  - "Travelling time 3 min" (auto-switch-off after 3 min travelling time)
  - "Alarm close" (the actuators are closed in case of alarm)
- Possibility of connecting ventilation buttons for each vent. group, also with indication of position OPEN
- For each actuator output adjustable ventilation position and ventilation time
- Possibility of connecting an external Wind and Rain Control (WRC), e.g. type **WRS** (for each SHEVS Control Centre to be controlled, a separate contact is required). Optionally internal Wind and Rain Control
- Indicators operation OK, alarm and malfunction ⚠ in the enclosure door
- Internal service display for detailed status information for installation and maintenance
- The use of K + G / Grasl actuators is recommended. When driving third-party actuators, compatibility is to be checked! Also note Section 2 " Technical data"
- Actuator specification: 24 V actuators, travelling time for full stroke at rated load (total travelling time) < 1.5 minutes or < 3 minutes
- Actuators must be suitable for the repetition of OPEN and / or CLOSE cycle
- Upon direct change of the sense of travel, the actuators are briefly stopped before changing the sense
- Sheet steel enclosure, light grey (RAL 7035)

1.1 Options / Accessories

- **PK:** One potential-free contact (PFC) each for alarm / malfunction forwarding
- **PK-SA:** Potential-free contacts for forwarding indication of position
- **WTM:** Outputs for controlling external warning devices in case of alarm or malfunction (e.g. multiple-tone sounder **MS** and strobe **BL**)
- **WRM:** Internal Wind- and Rain Control
  - Actuators are automatically closed on response of WRM. Connection of wind sensor **WM** and / or rain sensor **RS** is required (accessory)
  - Direct connection of the sensors on the module in the Control Centre. No external WRC required
  - Sensitivity of the sensors is adjustable
  - The closing command remains active as long as a sensor responds, but for at least 6 minutes
  - Indicators for wind and rain on the module

ℹ *As there are no corresponding regulations, the optional boards WRM and WTM are not VdS approved. However their usage does not affect the VdS approval of the Control Centre, since interactions have been checked and excluded during the approval process.*

2 Technical data

2.1 Versions

Type	**RWZ 5-8e**	**RWZ 5-16e**	**RWZ 5-24e**	**RWZ 5-32e**
Product code	8100 5508 0000	8100 5516 0000	8100 5524 0000	8100 5532 0000
Total output current	8 A (24 V⎓ / 192 W)	16 A (2 x 8 A) (24 V⎓ / 384 W)	24 A (3 x 8 A) (24 V⎓ / 576 W)	32 A (4 x 8 A) (24 V⎓ / 768 W)
Current input	1.1 A / 230 V~	2.2 A / 230 V~	3.3 A / 230 V~	4.4 A / 230 V~
Lead-acid accumulators, VdS approved	2 x 7 Ah / 12 V	2 x 12 Ah / 12 V	2 x 17 Ah / 12 V	
I / U charging	0.7 A (28.8 V) / 27.4 V	1.2 A (28.8 V) / 27.4 V	1.8 A (28.8 V) / 27.4 V	
Accumulator fuse F2	10 A	20 A	30 A	40 A
Dimensions in mm (W x H x D)	500 x 500 x 210		600 x 600 x 210	

The Control Centre complies with the requirements of the 2006/95/EC and 2004/108/EC Directives (emission: EN 61000-6-3 and EN 55022, immunity: EN 61000-6-2 and EN 50130-4).

2.2 Performance data and characteristics

General

Line voltage supply Internal voltage supply / standby time	230 V~ / 50 - 60 Hz 24 V⎓ / 72 Std. (mains failure)
Cable feed through membrane grommets (from above)	12 x M16, 2 x M20, 4 x M32
Environmental Class 1 / III (to EN 12101-10 / VdS 2581) Relative humidity Enclosure protection rating (to DIN EN 60529)	-5 °C … +40 °C 20 % … 80 %, non-condensing IP40
Not suitable for use outdoors. Protect from direct sunlight, humidity and excessive formation of dust! Preferably, the installation should be carried out in dry, heated rooms.	

Signal lines

Line monitoring	wire-break, short-circuit
Line, automatic fire detectors: Smoke detector / heat detector (**RM 2** / **TM 2** or **RM 3 / TM 3**)	20 pieces per SHE group, of which max. 10 heat detectors [1]
Line, manual call points: − Secondary alarm point (**RT 2-***) − Main alarm point (**RT 2-*-BS**) − Main alarm point (**RT 2-*-BS-A**, with indication) − Main alarm point (**RT 2-*-BS-AA**, with buzzer)	total of 10 pieces per SHE group, of which max. 3 pieces with buzzer
Line F, Fire Alarm Control Panel: − Terminating resistor − Alarm resistor	normally open contact 10 kΩ (± 10 %, ¼ W) 1 kΩ … 1,5 kΩ (± 10 %, ½ W)

In- / Outputs

Ventilation button (**LT**) Ventilation button with indication of position (**LT-A**)	unlimited per ventilation group 10 pieces for each ventilation group
Wind and Rain Control (type **WRS**)	normally closed contact [2]

[1] *Heat detectors:* **TM 2-D** (65-55000-122), **TM 2-M** (65-55000-137), **TM 3-D** (FD-851RE), **TM 3-M** (FD-851HTE), **RM 3-OT** (SD-851-TE),
Optical detectors: **RM 2-O** (65-55000-317), **RM 3-O** (SD-851-E)
[2] *In the WRC, use a separate contact for each connected Control Centre*

Actuator outputs

Rated voltage	24 V⎓ (+6 V / -4 V)
Current per actuator output	8 A

*For **RWZ 5-16** note: Current sum of outputs 1 and 2 max. 8 A and Current sum of outputs 3 and 4 max. 8 A.*

*For **RWZ 5-24** note: Current sum of outputs 3 and 4 max. 8 A.*

Note maximum total output current of Control Centre (see 2.1)!

Mode of operation / duty cycle	S3 30 %
Max. cross-section of supply line	4 x 10 mm² (rigid) per output
Allowed voltage drop between Control Centre and actuator	1 V at full load
Line monitoring (unbranched common line)	wire-break, short-circuit

Allowed cable lengths with simple and moderately branched arrangement of the actuators

Cross section \ Current	1.0 A	2.0 A	3.0 A	4.0 A	5.0 A	6.0 A	7.0 A	8.0 A
2 x 1.5 mm²	44 m	22 m	15 m	11 m	9 m	7 m	6 m	5 m
2 x 2.5 mm²	73 m	36 m	24 m	18 m	15 m	12 m	10 m	9 m
2 x 4.0 mm²	116 m	58 m	39 m	29 m	23 m	19 m	17 m	15 m
2 x 6.0 mm²	174 m	87 m	58 m	44 m	35 m	29 m	25 m	22 m
2 x 10.0 mm²	290 m	145 m	97 m	73 m	58 m	48 m	41 m	36 m
4 x 1.5 mm²	87 m	44 m	29 m	22 m	17 m	15 m	12 m	11 m
4 x 2.5 mm²	145 m	73 m	48 m	36 m	29 m	24 m	21 m	18 m
4 x 4.0 mm²	232 m	116 m	77 m	58 m	46 m	39 m	33 m	29 m
4 x 6.0 mm²	348 m	174 m	116 m	87 m	70 m	58 m	50 m	44 m
4 x 10.0 mm²	580 m	290 m	193 m	145 m	116 m	97 m	83 m	73 m

When 4 cores are used, connect 2 cores each in parallel.

Fuses

Primary mains (miniature fuse 5 x 20 mm)	F1: T 2 A
Accumulators (flat fuse 19 mm)	F2: value see 2.1
Actuators (flat fuse 19 mm)	F3.1 - F3.4: 10 A
Additional power supply unit (miniature fuse 5 x 20 mm)	N:F1: T 2 A

Alarm and malfunction forwarding (option PK)

Contact load rating PFC-, PFC-⚠ (change-over contacts)	5 A / 30 V⎓ / 230 V~
Fuses PFC-, PFC-⚠ (miniature fuses 5 x 20 mm)	P:F1, P:F2: F 5 A

Forwarding the indication of position (option PK-SA)

Contact load rating PFC (4 change-over contacts)	0,2 A / 30 V⎓

Controlling external warning devices (option WTM)

Multiple tone sounder **MS**	24 V⎓ / 100 mA
Strobe **BL**	24 V⎓ / 250 mA

Internal Wind and Rain Control (option WRM)

Wind sensor **WM**, heated rain sensor **RS**	1 piece each
Adjustment range of sensitivity to wind	approx. 5 - 15 m/s (20 - 60 km/h, approx. wind force 3 - 7)
Adjustment range of sensitivity to rain	light - stronger rain