

1 Concept of Control Centre

- Smoke and Heat Exhaust Ventilation System (SHEVS) Control Centre 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
- One SHE group, three signal lines:
 - Line  1: automatic fire detectors
 - Line : manual call points **RT 2** as
 - a) Main alarm point with indicators operation , 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  2: connection of a Fire Alarm Control Panel (FACP) or additional automatic fire detectors
- Reset the alarm / detector using the button in the main alarm point or in the Control Centre
- Selectable functions:
 - “Auto close” (automatic closure after resetting an alarm)
 - “Malfunction = Alarm” (alarm upon malfunction of a signal line)
 - “Automatic OFF” (automatic travel commands - apart from the alarm - are disabled)
 - “Thermal alarm” (alarm on exceeding an enclosure inside temperature of 70 °C)
 - “2-detector-dependency” (2-detector-dependency for automatic fire detectors in line  1)
- Possibility of connecting ventilation buttons, also with indication of position 
- 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
- Possibility of connecting an external malfunction contact (e.g. from an incoming air control)
- Indicators operation , alarm  and malfunction  in the enclosure door
- Internal service display for detailed status information for installation and maintenance
- Plug-in connection terminals (apart from actuator output)
- 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) < 4 min.
- 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
- **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

 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 Version

Type	RWZ 4-8d
Product code	8100 4408 0000
Output current	8 A (24 V $\overline{=}$ / 192 W)
Current input	1.1 A / 230 V $\sim$
Lead-acid accumulators, VdS approved	2 x 7 Ah / 12 V
I / U charging	0.7 A (28.8 V) / 27.4 V
Dimensions in mm (W x H x D)	400 x 400 x 125

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	230 V $\sim$ / 50 - 60 Hz
Internal voltage supply / standby time	24 V $\overline{=}$ / 72 hrs. (mains failure)
Cable feed through membrane grommets (from above)	11 x M16, 3 x M25
Environmental Class 1 / III (to EN 12101-10 / VdS 2581)	-5 °C ... +40 °C
Relative humidity	20 % ... 80 %, non-condensing
Enclosure protection rating (to DIN EN 60529)	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  1, automatic fire detectors: Smoke detector / heat detector (RM 2 / TM 2 or RM 3 / TM 3)	20 pieces, of which max. 10 heat detectors ¹
Line  2: Fire Alarm Control Panel - Terminating resistor - Alarm resistor or additional automatic fire detectors	normally open contact 10 k Ω ($\pm$ 10 %, 1/4 W) 1 k Ω ... 1.5 k Ω ($\pm$ 10 %, 1/2 W) see line  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, of which max. 3 pieces with buzzer

In- / Outputs

Ventilation button (LT)	unlimited
Ventilation button with indication of position  (LT-A)	10 pieces
Wind and Rain Control (type WRS)	normally closed contact ²
External malfunction	normally closed contact

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 output

Rated voltage	24 V $\overline{=}$ (+6 V / -4 V)
Mode of operation / duty cycle	S3 30 %
Max. cross-section of supply line	4 x 10 mm ² (rigid)
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

Current Cross section	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 mm ²	44 m	22 m	15 m	11 m	9 m	7 m	6 m	5 m
2 x 2.5 mm ²	73 m	36 m	24 m	18 m	15 m	12 m	10 m	9 m
2 x 4.0 mm ²	116 m	58 m	39 m	29 m	23 m	19 m	17 m	15 m
2 x 6.0 mm ²	174 m	87 m	58 m	44 m	35 m	29 m	25 m	22 m
2 x 10.0 mm ²	290 m	145 m	97 m	73 m	58 m	48 m	41 m	36 m
4 x 1.5 mm ²	87 m	44 m	29 m	22 m	17 m	15 m	12 m	11 m
4 x 2.5 mm ²	145 m	73 m	48 m	36 m	29 m	24 m	21 m	18 m
4 x 4.0 mm ²	232 m	116 m	77 m	58 m	46 m	39 m	33 m	29 m
4 x 6.0 mm ²	348 m	174 m	116 m	87 m	70 m	58 m	50 m	44 m
4 x 10.0 mm ²	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: 10 A
Actuators (flat fuse 19 mm)	F3: 10 A

Alarm and malfunction forwarding (option PK)

Contact load rating PFC-  , PFC-  (change-over contacts)	5 A / 30 V $\overline{=}$ / 230 V~
Fuses PFC-  , PFC-  (miniature fuses 5 x 20 mm)	P:F1, P:F2: F 5 A

Controlling external warning devices (option WTM)

Multiple tone sounder MS	24 V $\overline{=}$ / 100 mA
Strobe BL	24 V $\overline{=}$ / 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