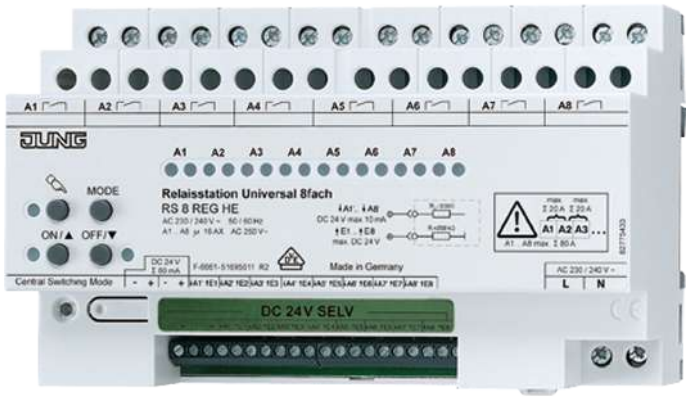
Operating instructions

Relay station universal, 8-gang
Art. no. RS8REGHE



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Product image non-binding

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1 Safety instructions

Electrical devices may be mounted and connected only by electrically skilled persons.

Serious injuries, fire or property damage are possible. Please read and follow the manual fully.

Danger of electric shock. Always disconnect before carrying out work on the device or load. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.

Danger of electric shock. During installation and cable routing, comply with the regulations and standards which apply for SELV circuits.

Danger of electric shock on the SELV/PELV installation. Do not connect loads for mains voltage and SELV/PELV together on a single switch actuator.

Do not connect any three-phase motors. Device can be damaged.

Risk of injury. Use the device only to control venetian blind and shutter motors or awnings. Do not use it to switch other loads.

Use only venetian blind motors with mechanical or electronic limit switches. Check the limit switches for correct mastering. Observe the information on the motors from the manufacturing company. Device can be damaged.

For parallel connection of several motors to an output it is essential to observe the corresponding instructions of the manufacturing company, and to use a cut-off relay if necessary. The motors may be destroyed.

These instructions are an integral part of the product, and must remain with the customer.

2 Device components

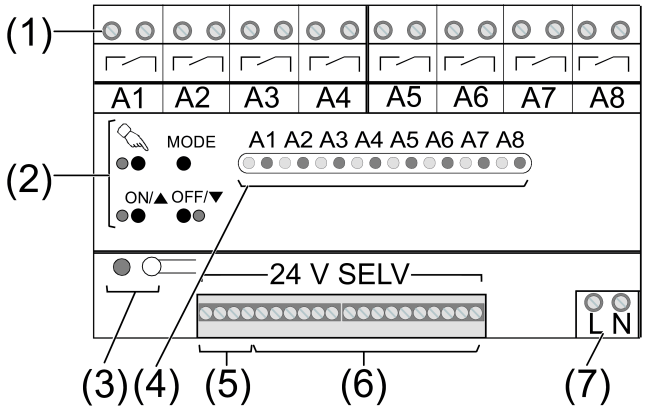

Figure 1: Device components

(1) Connection for loads **A1 ... A8**

(2) Keypad for local control

(3) Central switching mode, change-over button and status LED for central function
(4) Status LED for load outputs
(5) Connection of control sections or control voltage
(6) Activation outputs **A1'... A8'** / Switching outputs **E1 ... E8**
(7) Connection for mains supply

3 Intended use

- Switching of lighting, single-phase fan motors, electrically driven Venetian blinds, shutters, awnings and similar hangings
- Operation by means of sensor modules, push-button sensor modules, 24 V push-button sensors, 24 V push-button sensor modules or unlit buttons
- Installation in sub-distribution units on DIN rail according to DIN EN 60715

4 Product characteristics

- Local control
- Keypad for operation of the relay station
- Control outputs **A1' ... A8'** for activation of feedback LEDs on the control sections
- Switch operation
- Push-button operation
- Venetian blind operation with slat adjustment
- Mixed operation possible, example: load outputs **A1 ... A3** for switch operation, load output **A4** for push-button operation, load outputs **A5 ... A8** for Venetian blind operation
- Central function Central ON, Central OFF: switching the load outputs on or off together
- Operation with 24 V push-button sensors or 24 V push-button sensor modules: parallel switching of up to four relay or dimmer stations possible
- Operation with sensor modules or push-button sensor modules: parallel switching of two relay or dimmer stations possible

Behaviour after a mains voltage failure

After the mains voltage returns, all load outputs are switched off and have to be switched on again.

5 Operation

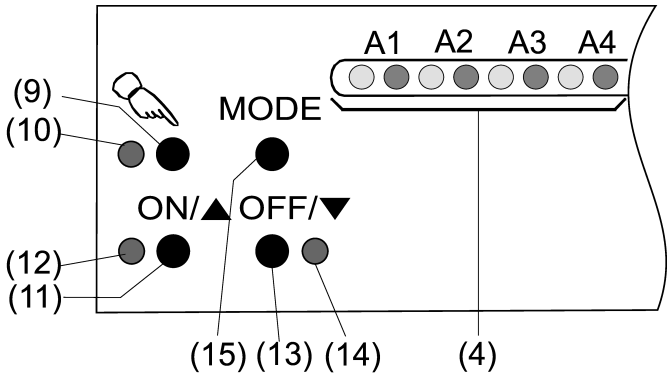

Figure 2: Control panel

(4) Status LED for load outputs **A1 ... A8** in normal operation
(9) ✎ button for local control
(10) LED ✎ on: local control or programming mode active
(11) Button **ON/▲**: switching on the load output or setting the operating mode
(12) LED **ON/▲**: status LED for load output or indication of operating mode
(13) Button **OFF/▼**: switching off the load output or setting the operating mode
(14) LED **OFF/▼**: status LED for load output or indication of operating mode
(15) **MODE** button for programming mode

Local control of the load outputs

The load outputs are operated with the integrated keypad (2).

- Press the ✎ button briefly.
  Red status LED **A1** (4) flashes, LED ✎ (10) lights up.

  Local control is active. Load output **A1** can be controlled.

  The LEDs **ON/▲** (12) and **OFF/▼** (14) indicate the switching state of the load output.

- Actuate the load output with the **ON/▲** (12) and **OFF/▼** (14) buttons.

ⓘ Push-button outputs: operation only with the **ON/▲** button (12)

ⓘ Venetian blind outputs, long: move venetian blind up/down, short: stop slat adjustment or Venetian blind

- Actuate the ✎ button briefly to switch to the next load output.
  The red status LED (4) of the next load output **A2 ... A8** flashes.

- Operate load output as described above.

Switching off local control

- Press the ✎ button as many times as necessary until the local control is switched off. Alternatively, do not press any button for 15 s.

The red status LEDs **A1 ... A8** (4) indicate the switching status of the load outputs.

The load outputs retain the switch position previously set. A blind movement that has been started will be completed.

Operating using control sections

Button output

- Press the button.

  The button output is switched on as long as the button is pressed.

Switching output

- Press the button

  The switching output switches on or off, depending on the switching state.

Venetian blind output

- Press and hold the button to move up/down.

  The Venetian blind output for the corresponding direction is switched on. The switch-on time of the relay is two minutes.

The motion can be stopped or the slats adjusted by briefly pressing the button.

Central function

The central function Central ON and Central OFF can be assigned to each load output separately during commissioning (see Setting the operating mode and central function for the load outputs **A1 ... A8**).

- Press the button for Central ON.

  The switching outputs switch on.

  Venetian blinds move to the upper end position. Venetian blinds that are moving down will stop.

  The push-button outputs are switched on for 0.3 seconds.

- Press the button for Central OFF.

  Switching outputs switch off.

  Venetian blinds move to the lower end position. Venetian blinds that are moving up will stop.

  The push-button outputs are switched on for 0.3 seconds.

6 Information for electrically skilled persons

6.1 Mounting and electrical connection

DANGER!

Electric shock when live parts are touched.

Electric shocks can be fatal.

Always disconnect before carrying out work on the device or load. To do so, switch off all corresponding circuit breakers, secure them against being switched on again and check that there is no voltage. Cover up any adjacent live parts.

Mounting the device

- Observe the temperature range. Ensure sufficient cooling.
- Mount device on DIN rail. The load terminals (1) must be at the top (see figure 1).

Connecting the mains voltage

- Connect the mains voltage to connection (7) (see figure 4).

Connecting loads

- Observe the current carrying capacity (see figure 3)

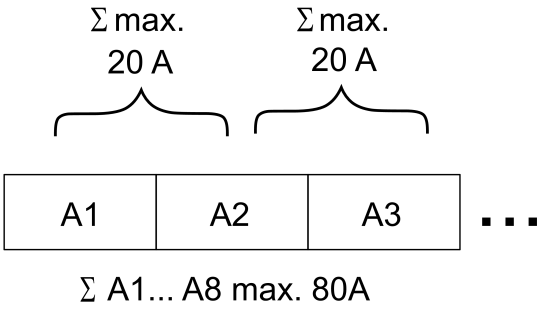

Figure 3: Current carrying capacity of load outputs

In Venetian blind operation, each pair of adjacent load outputs forms a Venetian blind output. In each case the left-hand load output **A1, A3, ...** is intended for the upwards direction, and the right-hand load output **A2, A4, ...** for the downwards direction.

CAUTION!

Overloading the device leads to excessive heating.

Damage to the device and the connected cables may result.

Do not exceed the maximum current carrying capacity.

- Connect loads as shown in the wiring example (see figure 4).

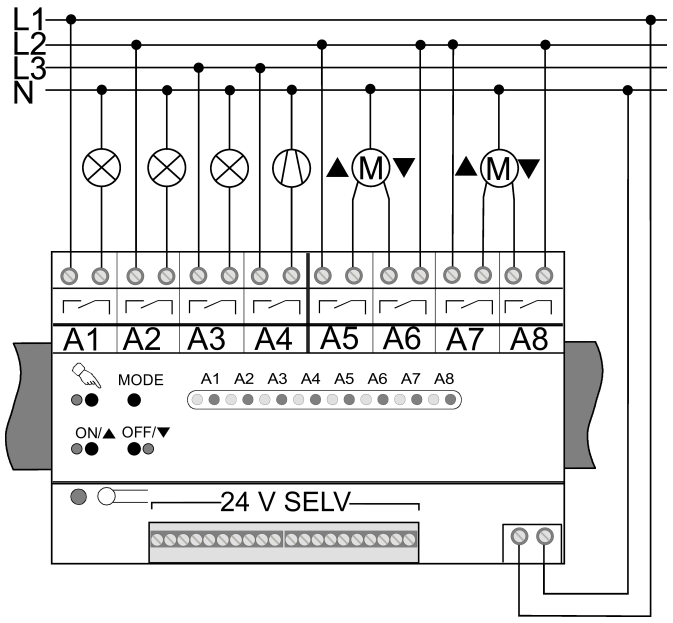

Figure 4: Wiring example for mains voltage and loads

Information on the operation points

- Operation take place using the devices listed under Accessories.
- Observe the technical data, especially the maximum number of sensor modules and push-button sensor modules, current carrying capacity of the activation outputs and switching inputs.
- Do not connect any sensor modules (17) or push-button sensor modules (17) when operating with 24 V push-button sensors (16), 24 V push-button sensor modules (16) and push-buttons (18).

24 V push-button sensors, 24 V push-button sensor modules (16)

- Establish the connection according to the connection example (see figure 5).

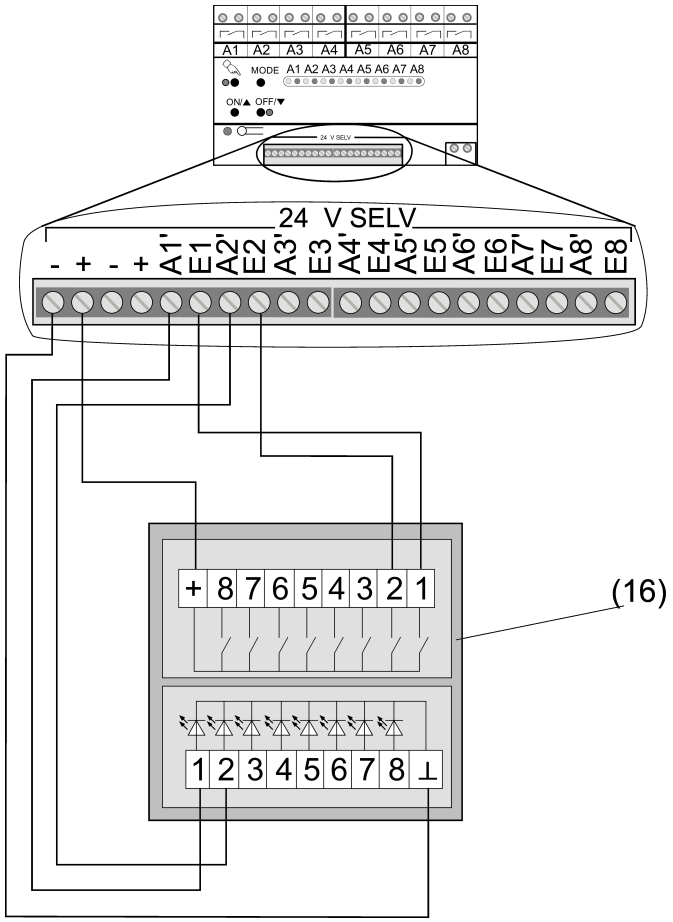

Figure 5: Connection example with 24 V push-button sensor, 24 V push-button sensor module, 4-gang

Sensor modules, push-button sensor modules (17)

- Establish the connection according to the connection example (see figure 6).

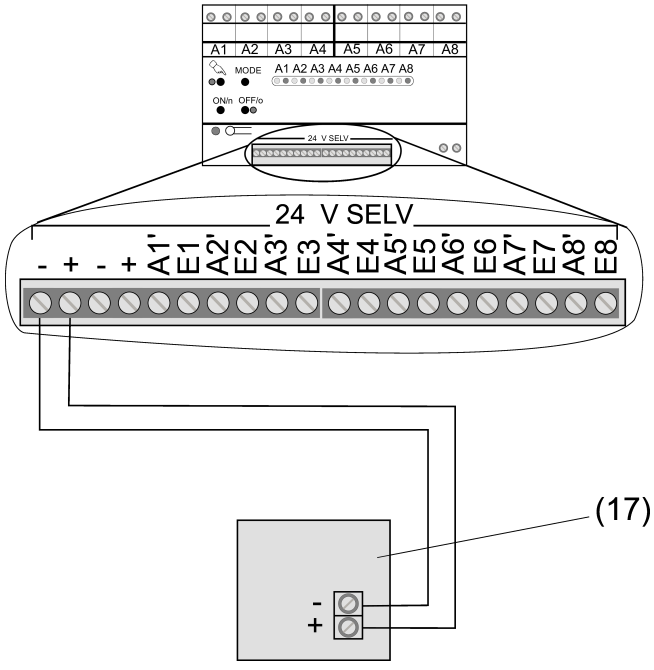

Figure 6: Connection example of sensor module or push-button sensor module

Push-button (18)

- Establish the connection according to the connection example (see figure 7).

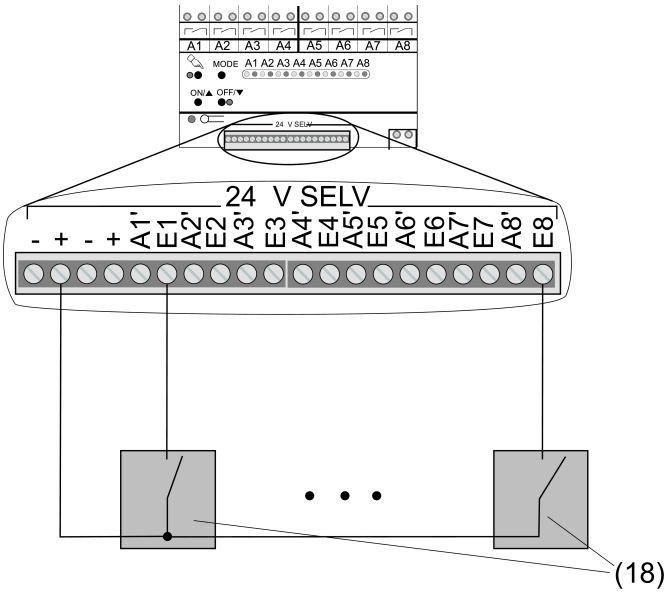

Figure 7: Push-button connection example

Connection of one 24 V push-button sensor or 24 V push-button sensor module to several relay stations

When operating with 24 V push-button sensors or 24 V push-button sensor modules, they can be connected to up to four relay stations. To do this, the negative poles of the individual relay stations have to be connected to each other. It is possible, for example, to use a 24 V push-button sensor to switch load outputs of several relay stations or to implement central control of several relay stations.

- Connect the 24 V push-button sensor according to the connection example. Here, channel 1 of the 24 V push-button sensor switches load output A1 of the right relay station and channel 2 switches load output A2 of the left relay station (see figure 8).

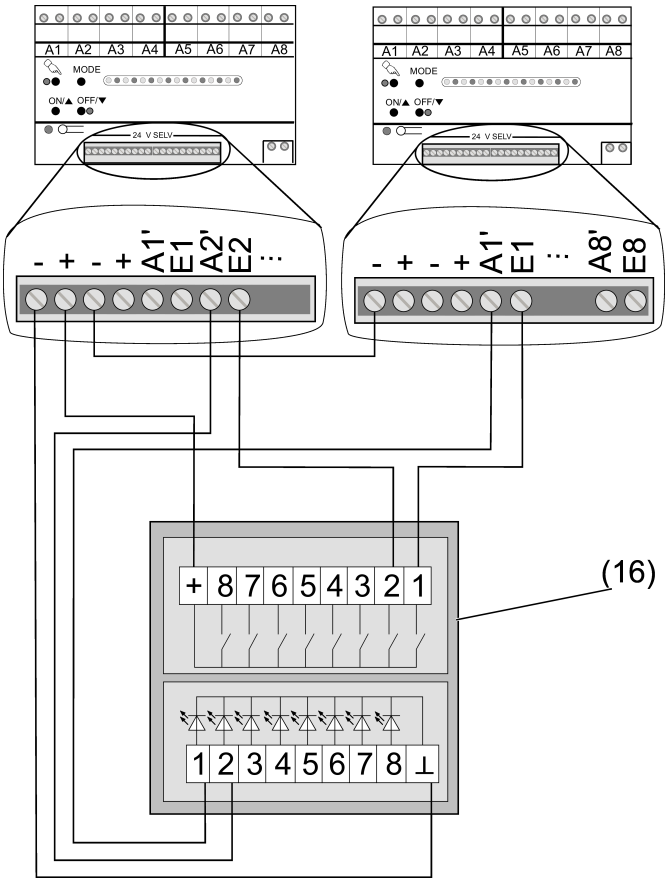

Figure 8: Connection example with a 24 V push-button sensor to two relay stations

Wiring example for central control. For the example, the central function must be switched on at both relay stations (see chapter Switching on the central function of the relay station).

- Connect the 24 V push-button sensor according to the connection example. Here, channel 7 of the 24 V push-button sensor switches Central ON and channel 8 switches Central Off (see figure 9)

The feedback LEDs of the 24 V push-button sensors are connected only to the activation outputs of one relay station. This relay station then indicates the status of the load outputs, standing in for all of the relay stations.

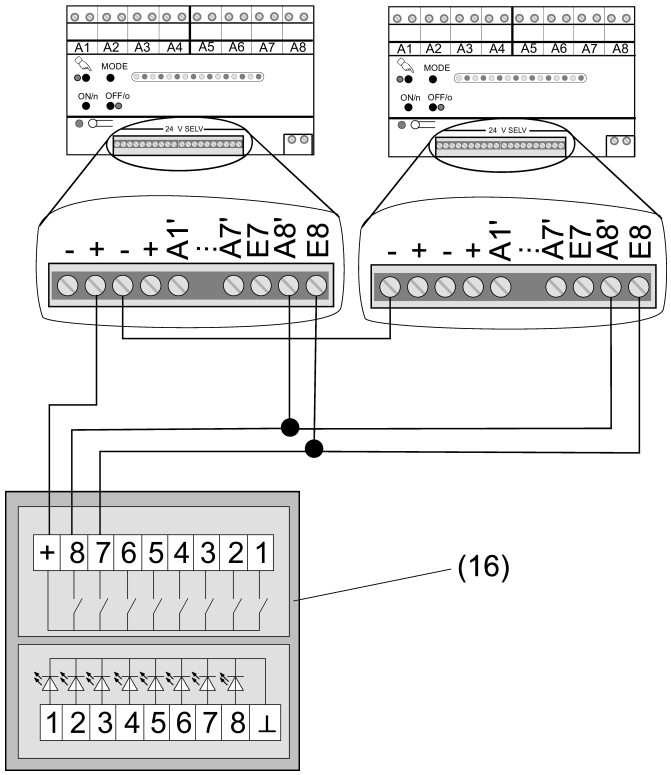

Figure 9: Connection example for Central ON, Central OFF

Switching on the central function of the relay station

For central operation using 24 V push-button sensors, 24 V push-button sensor modules or push-buttons, the central function must be activated on the relay station.

The sensor module and push-button sensor module are used to set the central function on the modules.

- Press the button **Central Switching Mode** (3) for approx. five seconds until the status LED (3) lights up in red (see figure 1).

  The red and green status LEDs (4) (see figure 1) for load output **A8** flash alternately.

  Activation output **A8'** is input for Central OFF.

  Switch input **E8** is input for central ON.

  Load output **A7** is in push-button operation.

When the central function is activated, load output **A8** has no function.

Switching off the central function of the relay station

- Press the button **Central Switching Mode** (3) for approx. five seconds until the status LED (3) lights up in green (see figure 1).

  The red status LED (4) (see figure 1) for load output **A8** is off.

  The green status LED (4) for load output **A8** indicates push-button or switching operating modes.

Connecting one sensor module or push-button sensor module to two relay stations

Sensor modules or push-button sensor modules can operate two relay stations together. This requires the connection of both relay stations in parallel. To do this, the relay stations and sensor modules must have at least version V02. To do this, the device address of a relay station must be changed (see "Setting the device address").

Even relay stations switched in parallel may only have four sensor modules or push-button sensor modules connected to them.

- Connect the relay stations to the same phase conductor.
- Connect the sensor module or push-button sensor module to the relay stations according to the connection example (see figure 10).

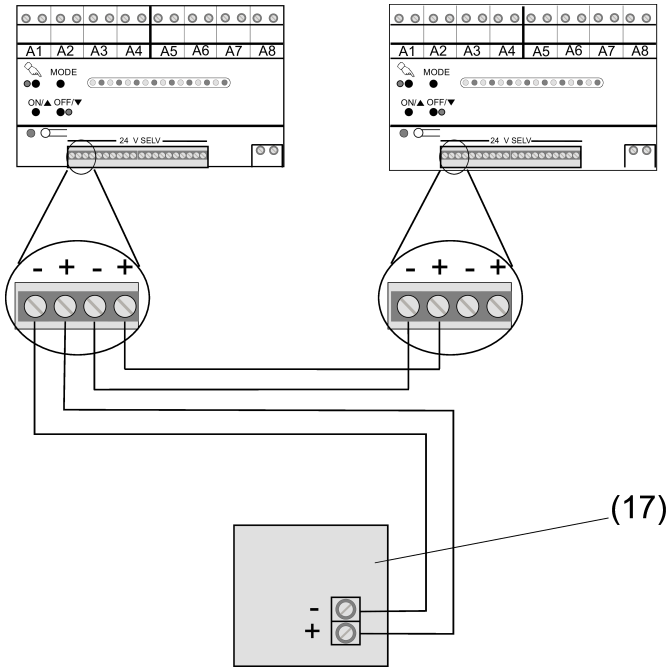

Figure 10: Connection example of one sensor module or push-button sensor module to two relay stations

6.2 Commissioning

Setting the operating mode and central function of load outputs A1 ... A8

The status LEDs (4) of the load outputs have the following meaning in normal operation:

LED	off	lights up	flashes
green LED	Buttons	Switching	Venetian blind
red LED	Load output OFF	Load output ON	--

In the state as supplied all load outputs are set to Venetian blind operation. The operating mode for the load outputs is set by means of the following steps. The settings are retained in the event of a mains failure.

- Press the **MODE** button (15) (see figure 2) for approx. 5 seconds.
  The LED ✎ (10) (see figure 2) lights up. Programming mode is switched on.

  The green status LED (4) for the load output **A1** or in Venetian blind mode **A1** and **A2** flash. The operating mode can be set for output **A1**.

CAUTION!

Danger of destruction from wrong operating mode.

A simultaneous current feed in both directions of travel can destroy the device and the connected Venetian blind motors.

Before setting the operating mode, check what loads are connected.

- Set the operating mode for load output **A1**, see table.

Operating mode	Button	LED
Switching	Press **ON/▲** (11)	**ON/▲** (12) lights up
Buttons	Press **OFF/▼** (13)	**OFF/▼** (14) lights up
Venetian blind	Press **ON/▲** (11) and **OFF/▼** (13) simultaneously	**ON/▲** (12) and **OFF/▼** (14) light up

If a load output **A1 ... A8** is set to Venetian blind operation, the setting is automatically adopted for the second associated load output.

- Press the **MODE** (15) button briefly.
  The operating mode of the next load output can be set.

After the last load output is set, the mode for setting the central function is activated automatically.

In the state as supplied the central function is assigned to all of the load outputs.

In the case of Venetian blind outputs, the central function can be set individually for each direction of travel. Thus for example in the case of Central OFF the Venetian blind moves to the lower end position, but in the case of Central OFF the Venetian blind does not move.

The red or green status LED (4) of output **A1** flashes.

- Set the central function for load output **A1**, see table.

Operating mode	Button	LED
Central function switched on	Press **ON/▲** (11)	Green status LED (4) flashes
Central function switched off	Press **OFF/▼** (13)	Red status LED (4) flashes.

- Press **MODE** button briefly.

The central function for the next load output can be set.

Exit programming mode

- Press the **MODE** button (15) repeatedly until the LED ✎ (10) goes out.

  The status LEDs (4) indicate the operating mode and the switching status of load outputs **A1 ... A8**.

Programming mode is automatically terminated after 15 seconds without actuating a button.

6.2.1 Settings for sensor modules and push-button sensor modules

Setting the device address

If two relay stations are connected in parallel, the device address of a relay station must be reprogrammed before the sensor modules or push-button sensor modules are commissioned. In the state as supplied each relay station has the device address 1.

Prerequisite: sensor modules or push-button sensor modules are connected.

- Press the **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.

  The green status LED (4) of output **A1** flashes. Device has the device address 1.

- Press the **ON/▲** or **OFF/▼** buttons briefly.

  The green status LED (4) of output **A2** flashes. Device address 2 has been set.

- Press the **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.

  The relay station switches to normal operation.

Switching on the status message for sensor modules and push-button sensor modules

When operating with sensor modules or push-button sensor modules, a status message must be transmitted regularly. In the state as supplied this status message is switched off.

Prerequisite: sensor modules or push-button sensor modules are connected.

- Press the **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.

  The green status LED (4) of output **A1** or output **A2** flashes.

- Press **MODE** button briefly.

  The green status LED (4) of all outputs flashes briefly. The regular status message is switched on.

- Press the **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.

The relay station switches to normal operation.

The regular status message is switched off in the same way as it is switched on. All red status LEDs (4) of the outputs flash briefly for acknowledgement.

Cloning sensor modules or push-button sensor modules

"Cloning" is used to transfer the button assignments of a module to other modules. Only identical devices and the same release version can be cloned - sensor module to sensor module or push-button sensor module to push-button sensor module. Control of the relay station is not possible during cloning mode.

Preconditions:
Several sensor modules or push-button sensor modules are connected to the relay station.
Button assignments have been made on a module.

- Press the buttons **MODE** (15) (see figure 2) and **Central Switching Mode** (3) simultaneously (see figure 1) until the LEDs ✎, **ON/▲** and **OFF/▼** flash (see figure 2).

  The relay station and modules are in cloning mode.

- Press a button within approx. 2 minutes on the module to be cloned.
- Press a button on a different module within approx. 2 minutes.

  The module has adopted the button assignments, and cloning mode is terminated.

- Repeat the steps described above for additional modules.

Cloning mode cannot be terminated manually. To abort cloning mode once it has started, wait 2 minutes without pressing any sensor module or push-button sensor module.

If cloning mode is activated on the relay station when there are no sensor modules or push-button sensor modules connected, cloning mode will be terminated automatically after 3 minutes.

For additional information, e.g. on signalling of the modules, please refer to the instructions for the module in question.

7 Technical data

Rated voltage	AC 230 / 240 V ~
Mains frequency	50 / 60 Hz
Standby power	approx. 0.5 W
Power loss	12.5 W
Ambient temperature	-5 ... +45°C
Storage/transport temperature	-25 ... +70 °C
Installation width	144 mm / 8 HP

Terminals -, +	
Control voltage	DC 24 V SELV
Current carrying capacity	Σ 80 mA
Total length of control cable	max. 100 m
Number	
Sensor modules / push-button sensor modules	4
24 V push-button sensors / 24 V push-button sensor modules	Type-dependent
Switching inputs E1 ... E8	
Control voltage	DC 24 V SELV
Resistance Ri	200 kΩ
Activation outputs A1' ... A8'	
Control voltage	DC 24 V SELV
Current carrying capacity	10 mA
Resistance CRI	330 Ω
Connection of activation outputs / switching outputs / control sections	
Single stranded	1.5 mm²
Finely stranded with conductor sleeve	0.75 mm²
Finely stranded without conductor sleeve	1 mm²
Connection of rated voltage / load outputs	
Single stranded	0.5 ... 4 mm²
Finely stranded with conductor sleeve	0.14 ... 2.5 mm²
Finely stranded without conductor sleeve	0.34 ... 4 mm²
Load outputs A1 ... A8	
Contact type	µ contact, potential-free NO contact
Rated voltage	AC 230 / 240 V ~
Minimum switching voltage	AC 12 V~
Switching current per device	Σ 80 A
Switching current, adjacent load outputs	Σ 20 A
Switching current per channel at AC 250 V~	
Fluorescent lamps	16 AX
Capacitive load DIN EN IEC 61058-1	max. 16 A (140 µF)
Switch-on current 200 µs	Max. 800 A
Switch-on current 20 ms	Max. 165 A
Minimum switching current AC	100 mA
Connected load per channel for AC 230 V~	
Ohmic load	3000 W

Incandescent lamps	3000 W
HV halogen lamps	2500 W
Electronic transformers	1500 W
Inductive transformers	1200 VA
Fluorescent lamps	
uncompensated	1000 VA
parallel compensated	1160 VA (140 µF)
twin-lamp circuit	2300 VA (140 µF)
Mercury vapour lamps	
uncompensated	1000 W
parallel compensated	1160 W (140 µF)
Electronic ballast	Type-dependent
Venetian blind motors, fan motors	1380 VA
Switch-over time for direction change	approx. 1 s
Switch-on time for Venetian blind operation	approx. 2 min

8 Troubleshooting

No control is possible via control sections.

Cause 1: local control is switched on.

Switch off local control (see Operation chapter).

Cause 2: programming mode is switched on.

Switch off programming mode (see Commissioning chapter).

Load output A8 cannot be controlled.

Cause: The central function Central ON, Central OFF at the relay station is switched on.

Switch off the central function (see chapter Mounting and electrical connection).

Set the operating mode for load output **A8** (see Commissioning chapter).

No Venetian blind operation can be set for load outputs A7 ... A8

Cause: The central function Central ON, Central OFF at the relay station is switched on.

Switch off the central function (see chapter Mounting and electrical connection).

Set Venetian blind operating mode for load outputs **A7** ... **A8** (see Commissioning chapter).

Venetian blind at load outputs A7 ... A8 can only be opened.

Cause: The central function Central ON, Central OFF at the relay station is switched on.

Switch off the central function (see chapter Mounting and electrical connection).

Set Venetian blind operating mode for load outputs A7 ... A8 (see Commissioning chapter).

The load output is switched off after 2 minutes.

Cause: Venetian blind operating mode has been set for the load output.

Set the operating mode (see Commissioning chapter).

Two adjacent load outputs, e.g. A1 ... A2, A3 ... A4, ... cannot be switched on simultaneously.

Cause: Venetian blind operating mode has been set for the load outputs.

Set the operating mode (see Commissioning chapter).

Both directions of travel of a Venetian blind motor can be switched on simultaneously.

Cause 1: The load outputs have the wrong operating mode.

Set venetian blind operating mode for the load outputs (see Commissioning chapter).

Cause 2: The Venetian blind motor is connected to the wrong load outputs.

Check the installation (see chapter Mounting and electrical connection)

9 Accessories

Sensor module 8-gang	Art.-no.: SM1608
Push-button module	Art.-no.: 4008TSM
Push-button module 24 V AC/DC F40	Art.-no.: 42..TSM
Push-button module 24 V AC/DC F50	Art.-no.: ..52..TSM

10 Warranty

The warranty is provided by the specialist trade in accordance with statutory requirements.

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