

Relay station universal, 8-gang  
Art. No. RS 8 REG HE

## Operating instructions

### 1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

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

Danger of electric shock. Device is not suitable for disconnection from supply voltage.

The applicable regulations and standards for SELV voltage must be observed for installation of the control sections, the control inputs E1...E8, the activation outputs A1'...A8' and for cable routing.

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

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

Use only venetian blind motors with mechanical or electronic limit switches. Check the limit switches for correct adjustment. Observe the specifications of the motor manufacturers. Device can be damaged.

Risk of injury. Use the device only for controlling Venetian blind and roller shutter motors or awnings. Do not use it to switch other loads.

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

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

### 2 Device components

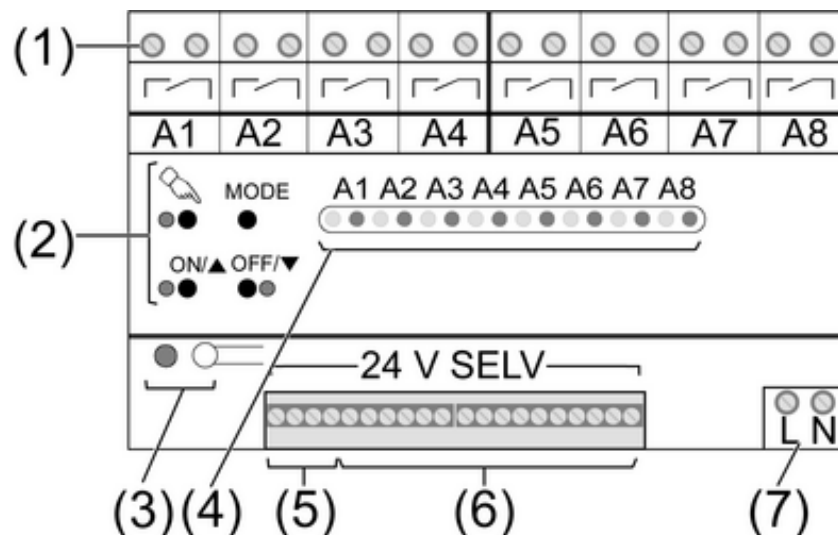


Figure 1: Device components

- (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 LEDs 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 Function

#### Intended use

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

#### 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
- Pushbutton operation
- Venetian blind operation with slat adjustment
- Mixed operation with switching, toggling and Venetian blind operation is possible.  
Example:  
Load outputs **A1...A3** switch operation  
Load output **A4** pushbutton operation  
Load outputs **A5...A8** shutter/blinds operation
- Central function Central ON, Central OFF:  
Common switching-on and switching-off of the load outputs
- Operation with pushbutton sensors 24 V or push-button modules 24 V: Parallel switching of up to four relay or dimmer stations possible
- Operation with sensor modules or pushbutton modules: Parallel switching of two relay or dimmer stations possible

#### Behaviour after a mains failure

After a mains failure all load outputs are switched off and have to be switched on again.

### 4 Operation

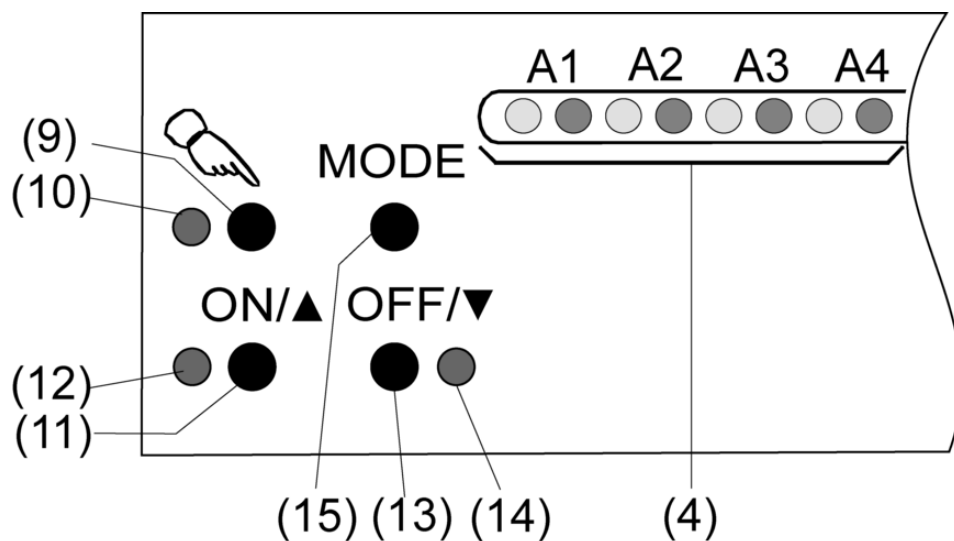



Figure 2: Keypad local control




(4) Status LEDs for load outputs **A1...A8** in normal operation

(9) Button Local control

- (10) LED  on: Local control or programming mode active
- (11) Button **ON/▲**: Switch on load output or set mode of operation
- (12) LED **ON/▲**: Status LED for load output or indication of mode of operation
- (13) Button **OFF/▼**: Switch off load output or set mode of operation
- (14) LED **OFF/▼**: Status LED for load output or indication of mode of operation
- (15) Button **MODE** Programming mode




### Local control of the load outputs

Operation by means of integrated keypad (2).

- Press the  button briefly.
  - Red status LED **A1** (4) flashes, LED  (10) lights up.
  - The device is in local control.
  - Load output **A1** can be controlled.
  - The LEDs **ON/▲** (12) and **OFF/▼** (14) indicate the switching state of the load output.
- Actuate pushbutton outputs with the **ON/▲** button (11).
  - Switch on switching outputs with the **ON/▲** button or switch off with the **OFF/▼** button (13).
  - Switch blind outputs with the **ON/▲** or **OFF/▼** button.
  - Long: Move blind up/down
  - Short: Stop slat adjustment or blind
- Press the  button briefly to go 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

Local control is switched on.

- Press  button as many times as necessary until local control is switched off.
    - The red status LEDs **A1...A8** (4) indicate the switching states of the load outputs.
    - LED (10)  is off.
    - Pushbutton outputs: When local control is switched off, the load outputs are switched off.
    - Switching outputs: When local control is switched off, the load outputs retain the switch position previously set.
    - Blind outputs: When local control is switched off, the load outputs retain the switch position previously set. A blind movement that has been started will be completed.
-  After 15 s with no button being pressed, the device automatically switches local control off.

### Buttons with control section

- Press a button.
  - Load output is switched on as long as the button is pressed.

### Switching with control section

- Press a button.
  - The switching output switches on or off, depending on the switching state.

### Moving a blind with control section

- Long press on button for move up/down.
  - The Venetian blind output for the corresponding direction is switched on. The switch-on time of the relay is 2 minutes.

 A short press on the button can be used to stop the motion and adjust the slats.

### Operation of central function

The central function Central ON and Central OFF can be assigned during commissioning to each load output separately (see Assigning central function).

- Press button for Central ON.

Switching outputs switch on.  
 Venetian blinds move to the upper end position.  
 Venetian blinds that are moving down will stop.  
 Push-button outputs are activated for 0.3 seconds.

- Press button for Central OFF.  
 Switching outputs switch off.  
 Venetian blinds move to the lower end position.  
 Venetian blinds that are moving up will stop.  
 Push-button outputs are activated for 0.3 seconds.

## 5 Information for electrically skilled persons

### 5.1 Fitting and electrical connection



**DANGER!**

**Electrical shock when live parts are touched.**

**Electrical shocks can be fatal.**

**Before working on the device, disconnect the power supply and cover up live parts in the working environment.**

#### Fitting the device

Observe the temperature range (see chapter 6.1. Technical data). Ensure sufficient cooling.  
 Output terminals up (figure 4).

- Snap the device onto DIN rail to DIN EN 50022.

#### Connecting the mains voltage

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

#### Connecting loads

Observe the technical data.

Observe the current carrying capacity (figure 3).

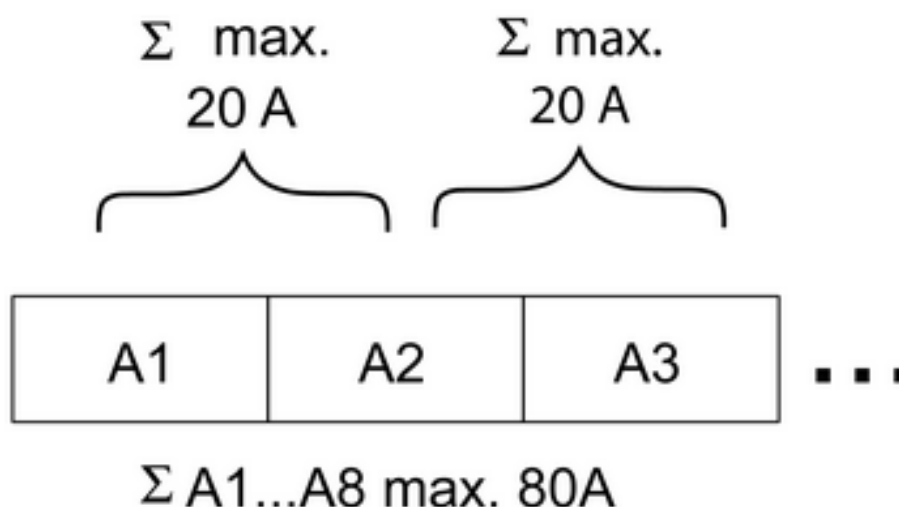


Figure 3: Current carrying capacity of load outputs

- i** In Venetian blind operation, each pair of adjacent load outputs forms a 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 (figure 4).

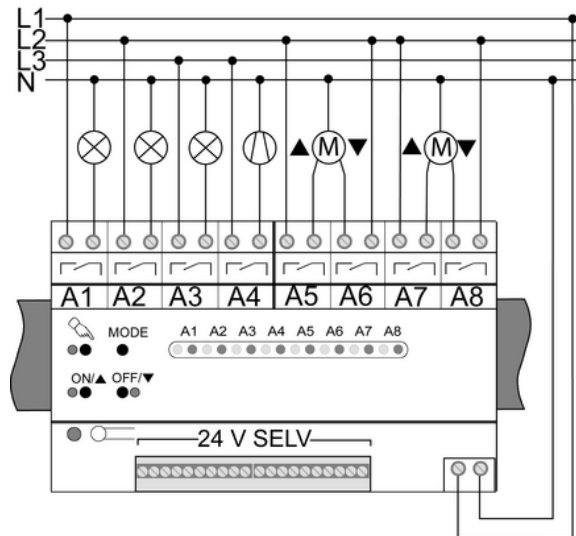


Figure 4: Wiring example for mains voltage and loads

**Connecting a control section**

Operation take place using the devices listed under Accessories.

In case of operation with sensor modules (17) or push-button modules (17) do not connect any other control sections such as push-buttons 24 V (16), push-button modules 24 V (16) and unlit installation buttons (18), to the relay station.

Observe technical data, especially the maximum number of sensor modules and push-button modules, load capacity of the activation outputs and switching inputs.

- Connect control sections according to wiring examples (figure 5), (figure 6) or (figure 7).

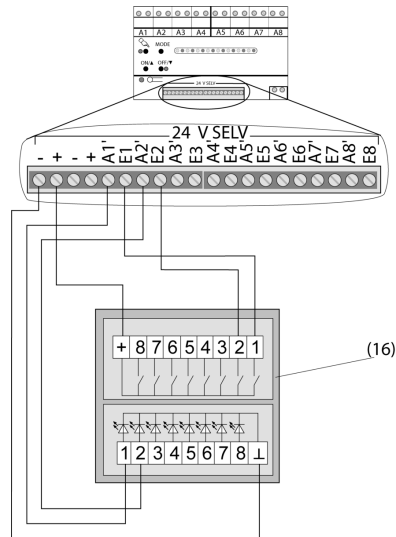


Figure 5: Wiring example with a pushbutton sensor 24 V 4-gang, push-button module 24 V 4-gang

**i** They are only connected in the first two channels for the sake of clarity. Supplement further channels correspondingly. An 18-wire cable is needed for a full connection.

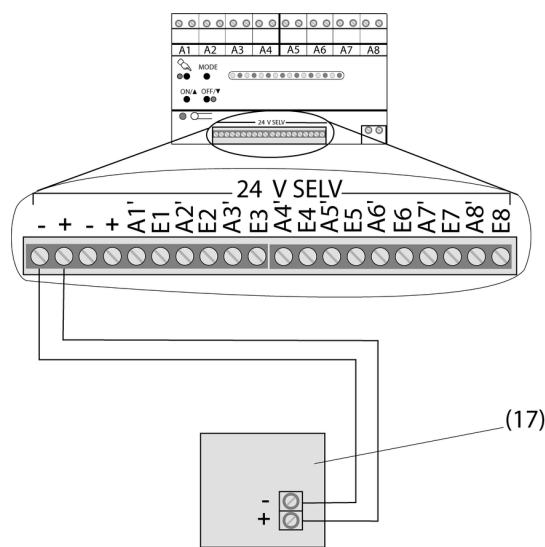


Figure 6: Connection example for sensor module or push-button module

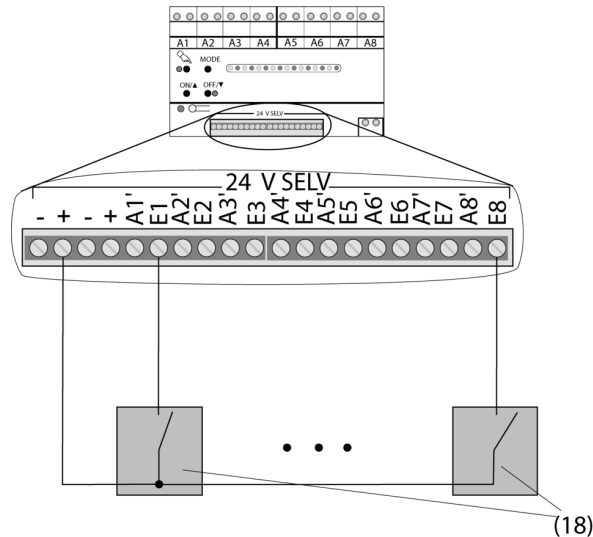


Figure 7: Wiring example for unlit installation button

**Connection of one sensor module 24 V or pushbutton module 24 V to several relay stations**

In operation with push-button sensors 24 V or pushbutton modules 24 V, 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 switch load outputs of several relay stations with a single push-button sensor 24 V (figure 8), or to implement central control of several relay stations (figure 9).

Wiring example for connecting one push-button sensor 24 V to two relay stations. Here channel 1 of the push-button sensor 24 V switches load output **A1** of the right-hand relay station, and **Kanal 2** switches load output **A2** of the left-hand relay station (figure 8).

Wiring example for central control. For the example, the central function must be switched on at both relay stations (see chapter 5.2. Commissioning).

- Connect push-button sensor 24 V as shown in the wiring example Here channel 7 of the push-button sensor 24 V Central ON and **Kanal 8** switches Central OFF (figure 9).
- i** The feedback LEDs of the push-button sensors 24 V are only connected 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.

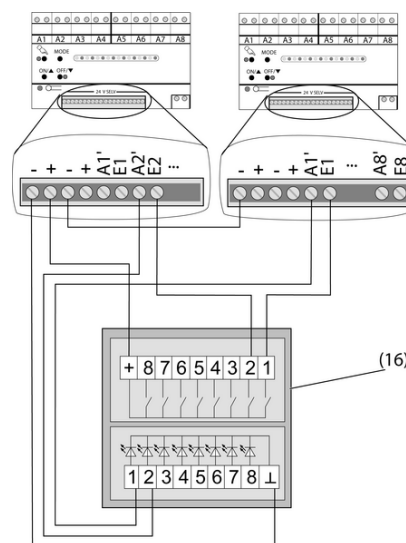


Figure 8: Wiring example for connecting one push-button sensor 24 V to two relay stations

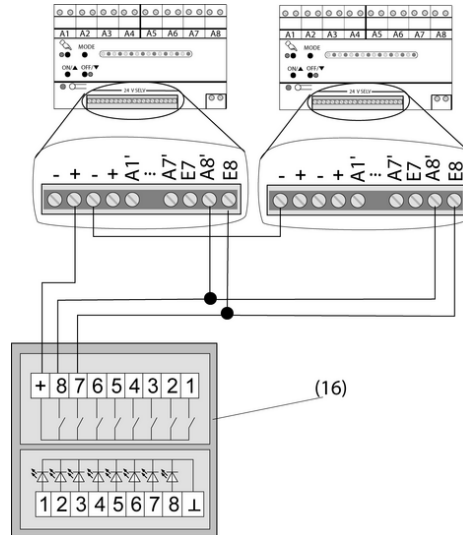


Figure 9: Wiring example for Central ON, Central OFF

**i** In like manner, installation buttons can also be used.

**Connection of one sensor module or pushbutton sensor to two relay stations**

Sensor modules or push-button modules can operate two relay stations together. This requires 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")

- Connect the sensor module or push-button module to two relay stations according to the connection example (figure 10).

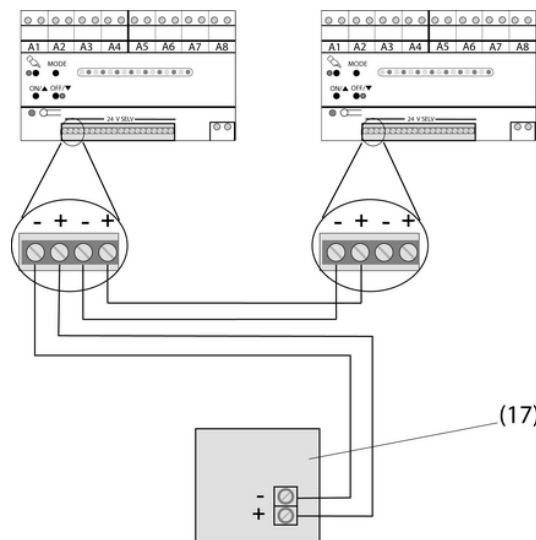


Figure 10: Wiring example for connecting one sensor module or pushbutton module to two relay stations

- i** Connect the relay stations to the same conductor.
- i** Even relay stations switched in parallel may only have four sensor modules or pushbutton modules connected to them.




## 5.2 Commissioning

### Setting the operating mode for load outputs A1...A8

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

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

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

- Press the **MODE** button (15) for approx. 5 s.  
Programming mode is switched on.  
Green status LEDs (4) for load output **A1** or in Venetian blind operation **A1** and **A2** flash.  
Red LED  (10) lights up.  
The red LEDs **ON/▲** (12) and **OFF/▼** (14) display the operating mode of load output **A1**.

| Operating mode | LED                                   |
|----------------|---------------------------------------|
| Switching      | <b>ON/▲</b> lights up                 |
| Buttons        | <b>OFF/▼</b> lights up                |
| Venetian blind | <b>ON/▲</b> and <b>OFF/▼</b> light up |




#### CAUTION!

**Danger of destruction from wrong mode of operation.**


**Simultaneous current feed in both directions of travel can destroy the device and connected blind motors.**

**Before setting the mode of operation, check what loads are connected.**

- Press **ON/▲** button (11), **OFF/▼** (13) button or both buttons at the same time.
-  If a load output **A1...A8** is set to Venetian blind operation, the setting is automatically adopted for the second associated load output.

| Operating mode | Button                                      |
|----------------|---|
| Switching      | <b>ON/▲</b>                                 |
| Buttons        | <b>OFF/▼</b>                                |
| Venetian blind | <b>ON/▲</b> and <b>OFF/▼</b> simultaneously |

Operating mode for load output **A1** is set.

- Press the **MODE** button briefly.  
The operating mode the next load output can be set.
-  After the last load output is set, the mode for assigning the central function is activated automatically.

### Configuring the central function

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

After the operating mode is set, the mode for setting the central function is activated automatically. The LEDs of the individual load outputs indicate whether the central function is active for that output.

Red LED flashes = central function not assigned

Green LED flashes = central function assigned


The red or green LED of load output **A1** flashes.

- To assign the central function for load output **A1**, press the **ON/▲** button.  
The green LED of load output **A1** flashes. The central function has been assigned.
- To remove the central function for load output **A1**, press the **OFF/▼** button.  
The red LED of load output **A1** flashes. The central function has been removed.
- Press **MODE** button briefly.

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

- i** In the case of Venetian blind outputs, the central function can be assigned 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 ON the Venetian blind does not move.

### Exit programming mode

- Press the **MODE** button (15) as many times as necessary until LED  (10) goes out.  
The status LEDs (4) indicate the operating mode and the switching state of load outputs **A1...A8**.

- i** After 15 seconds without a button-press the programming mode is automatically terminated.

### Setting the device address

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

Several sensor modules or pushbutton modules are connected.

- Press **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.  
The green LED of output **A1** flashes. This means that the device address 1 is set.
- Press the **ON/▲** or **OFF/▼** button briefly.  
The green LED of output **A2** flashes. Device address 2 has been set.
- Press the buttons **ON/▲** and **OFF/▼** again simultaneously for approx. 3 seconds or wait for 15 seconds.  
The relay station switches to normal operation.  
The relay station has the device address 2.

### Switching on central function Central ON, Central OFF

Activation of the central function on the relay station when push-button sensors 24 V, pushbutton modules 24 V or unlit installation buttons are used.

- i** With the sensor module and pushbutton module the central function is set on the modules.
- Press **Central Switching Mode** button (3) for approx. 5 seconds until status LED (3) lights up red (figure 1).  
Activation output **A8'** is input for Central OFF.  
Switch input **E8** is input for central ON.  
Red and green status LEDs (4) for load output **A8** flash alternately.  
Load output **A7** is in push-button operation.
- i** When the central function is activated, load output **A8** has no function.

### Switching off central function Central ON, Central OFF

- Press **Central Switching Mode** button (3) for approx. 5 seconds until status LED (3) lights up green (figure 1).  
Red status LED (4) of load output **A8** is off, green status LED (4) indicates the operating mode.  
Load output **A8** is in the "Toggle" or "Switching" operating mode.

**Switching on status message for sensor modules and pushbutton modules**

In operation with sensor modules or pushbutton modules, a status message has to be transmitted regularly. In the state as supplied this status message is switched off.


- Press **ON/▲** and **OFF/▼** buttons simultaneously for approx. 3 seconds.  
The green LED of output **A1** or **A2** flashes.
  - Press **MODE** button briefly.  
All green LEDs of the outputs flash briefly.  
The regular status message is switched on.
  - Press the buttons **ON/▲** and **OFF/▼** again simultaneously for approx. 3 seconds or wait for 15 seconds.  
The relay station switches to normal operation.
- i** The regular status message is switched off in the same way as it is switched on. All red LEDs flash briefly for acknowledgement.

**Cloning sensor modules or pushbutton 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 pushbutton module to pushbutton module. Control of the relay station is not possible during cloning mode.

Several sensor modules or pushbutton modules are connected to the relay station.

Button assignments have been made on a module.

- Press the **MODE** and **Central Switching Mode** buttons simultaneously until the , **ON/▲** and **OFF/▼** LED flash.  
The relay station and sensor modules or pushbutton modules are in cloning operation.
  - Within approx. 2 minutes, press a button on the module that is to be cloned.
  - Within approx. 2 minutes, press a push-button on another sensor module or push-button module.  
The module has adopted the button assignments, and cloning mode is terminated.
  - Repeat the steps described above for additional modules.
- i** 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 module.
- i** If cloning mode is activated on the relay station when there are no sensor modules or pushbutton modules connected, cloning mode will be terminated automatically after 3 minutes.
- i** For additional information, e.g. on signalling of the modules, please refer to the instructions for the module in question.

**6 Appendix**

**6.1 Technical data**

|   |                  |
|---|------------------|
| Rated voltage   | AC 230 / 240 V ~ |
| Mains frequency   | 50 / 60 Hz       |
| Power loss  | 12.5 W           |
| Standby power   | 0.5 W            |
| Terminals -, +  |                  |
| Control voltage   | DC 24 V SELV     |
| Current carrying capacity   | Σ 80 mA          |
| Total length of control cable                                       | max. 100 m       |
| Number of sensor modules  | 4                |
| Number of push-button modules                                       | 4                |
| Number of push-button sensors 24V / push-button sensor modules 24 V | 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 Ra   | 330 Ω                                |
| Connection  |                                      |
| rated voltage/load outputs                            |                                      |
| single stranded                                       | 0.5 ... 4 mm <sup>2</sup>            |
| finely stranded with conductor sleeve                 | 0.14 ... 2.5 mm <sup>2</sup>         |
| finely stranded without conductor sleeve              | 0.34 ... 4 mm <sup>2</sup>           |
| Activation outputs/switching outputs/control sections |                                      |
| single stranded                                       | 1.5 mm <sup>2</sup>                  |
| finely stranded with conductor sleeve                 | 0.75 mm <sup>2</sup>                 |
| finely stranded without conductor sleeve              | 1.0 mm <sup>2</sup>                  |
| 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 U                               |
| Switching current, adjacent load outputs              | Σ 20 U                               |
| Switching current per channel for AC 250 V~           |                                      |
| Fluorescent lamps                                     | 16 AX                                |
| Capacitive  | max. 16 U (140 μF)                   |
| Switch-on current 200 μs                              | max. 800 U                           |
| Switch-on current 20 ms                               | max. 165 U                           |
| 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                               |
| Tronic transformers                                   | 1500 W                               |
| Inductive transformers                                | 1200 VA                              |
| Fluorescent lamps, uncompensated                      | 1000 VA                              |
| Fluorescent lamps, parallel compensated               | 1160 VA (140 μF)                     |
| Fluorescent lamps, duo circuit                        | 2300 VA (140 μF)                     |
| Mercury vapour lamps, uncompensated                   | 1000 W                               |
| Mercury vapour lamps, parallel compensated            | 1160 W (140 μF)                      |
| Electronic ballast                                    | Type-dependent                       |
| Blind, fan motors                                     | 1380 VA                              |
| Ambient temperature                                   | -5 ... +45 °C                        |
| Storage/transport temperature                         | -25 ... +70 °C                       |
| Fitting width   | 144 mm / 8 modules                   |
| Switch-over time for direction change                 | approx. 1 s                          |
| Switch-on time, Venetian blind operation              | approx. 2 min                        |

## 6.2 Troubleshooting

### No control is possible via control sections.

Local control is switched on.

Switch off local control (see chapter 4. Operation).

Programming mode is switched on.

Switch off programming mode (see chapter 5.2. Commissioning).

### Load output A8 cannot be controlled.

The central function on the relay station is switched on.

Switch off central function (see chapter 5.2. Commissioning).

Set the operating mode for the load output **A8**(see chapter 5.2. Commissioning).

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

Central function Central ON, Central OFF is active.

Switch off central function (see chapter 5.2. Commissioning).

For load outputs **A7...A8** set Venetian blind operating mode (see chapter 5.2. Commissioning).

### **Blind on load outputs A7...A8 can only be raised.**

The central function on the relay station is switched on.

Switch off central function (see chapter 5.2. Commissioning).

For load outputs **A7...A8** set Venetian blind operating mode (see chapter 5.2. Commissioning).

### **Load output switches off after 2 minutes.**

The "Venetian blind" operating mode is set for the load output.

Set the operating mode (see chapter 5.2. Commissioning).

### **Two adjacent load outputs, e.g. A1...A2, A3...A4, etc. cannot be switched on at the same time.**

The "Blind" operating mode is set for the load outputs.

Set the operating mode (see chapter 5.2. Commissioning).

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

Load outputs of the relay station have the wrong operating mode.

Set "Venetian blind" operating mode for load outputs (see chapter 5.2. Commissioning).

Venetian blind motor is connected to the wrong load outputs.

Check installation (see chapter 5.1. Fitting and electrical connection)

## **6.3 Accessories**

Sensor module 8-gang

Art. No. SM 1608

Push-button module

Art. No. 4008 TSM

Push-button sensor 24 V AC/DC, 2-gang

Art. No. ..2224..

Push-button sensor 24 V AC/DC, 4-gang

Art. No. ..2248..

Push-button module 24 V AC/DC, 1-gang

Art. No. 4212 TSM

Push-button module 24 V AC/DC, 2-gang

Art. No. 4224 TSM

Push-button module 24 V AC/DC, 3-gang

Art. No. 4236 TSM

Push-button module 24 V AC/DC, 4-gang

Art. No. 4248 TSM

## **6.4 Warranty**

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

Please send the unit postage-free with a description of the defect to our central customer service office.

### **ALBRECHT JUNG GMBH & CO. KG**

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