

## Operating instructions

### 1 Safety instructions

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

Failure to observe the instructions may cause damage to the device and result in fire and other hazards.

**Danger of electric shock. Always disconnect before carrying out work on the device or load. At the same time, take into account all circuit breakers that supply dangerous voltage to the device or load.**

**Danger of electric shock. Device is not suitable for disconnection from supply voltage. The load is not electrically isolated from the mains even when the device is switched off.**

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

### 2 Device components

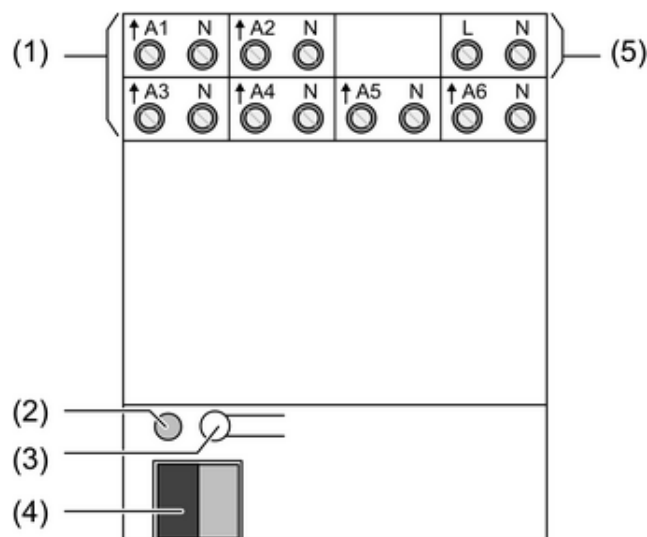


Figure 1

- (1) Connection of electrothermal actuators
- (2) Programming LED
- (3) Programming button
- (4) KNX connection
- (5) Mains voltage connection

### 3 Function

#### System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer's product database. Planning, installation and commissioning of the device are

carried out with the aid of KNX-certified software. The latest versions of product database and the technical descriptions are available on our website.

### Intended use

- Switching of electrothermal actuators for heaters or cooling ceilings
- Installation in distribution boxes on DIN rail according to DIN EN 60715

### Product characteristics

- Switching operation or PWM operation
- Actuators with characteristics opened or closed without power
- Overload-protected, short circuit-protected
- Protection against jamming valves
- Forced position
- Various setpoints for forced position or emergency operation in case of bus failure for summer or winter
- Cyclical monitoring of the input signals can be parameterized
- Feedback via bus, e.g. in case of mains failure, overload or sensor failure

**i** PWM operation: electrothermal actuators only have the positions "open" and "closed". In PWM operation, switch-on and switch-off during the drive's cycle time achieves an almost constant behaviour.

### Overload protection

In order to protect the device and connected actuators, in case of overload the device determines which output is involved and switches it off. Non-overloaded outputs continue to work, which means that the rooms in question are still heated.

- In case of major overloads the actuator initially switches all off the outputs **A1...A6** off.
- In the case of more minor overloads the actuators switches output groups **A1...A3** and/or **A4...A6** off.
- The actuator determines the overloaded output in up to 4 test cycles.
- If in the event of only a minor overload it is not possible to unambiguously identify any output as overloaded, then the actuator switches individual outputs off one after the other.
- The overload can be reported to the bus for each output.

## 4 Information for electrically skilled persons

### 4.1 Fitting and electrical connection



#### **DANGER!**

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

**Electrical shocks can be fatal.**

**Before carrying out work on the device or load, disengage all the corresponding circuit breakers. Cover up live parts in the working environment.**

#### Fitting the device

Observe the temperature range. Ensure adequate cooling.

- Mount device on DIN rail. Output terminals must be at the top.

## Connecting the device

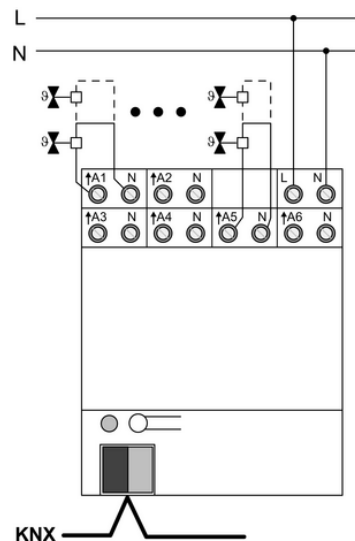


Figure 2

Per output group **A1...A3** and **A4...A6** , connect only actuators of the same type.

Do not connect any mixed loads.

Connect actuators for frost-sensitive rooms to outputs **A1** and **A4** . These are switched off last in the event of overload.

Do not exceed maximum number of actuators per output (see "Technical data").

Do not connect the neutral conductor from the output terminals through to additional devices.

Do not connect any inductive or capacitive loads.

- Connect the outputs according to connection diagram (figure 2).
- Connect the mains voltage (figure 2).
- Connect bus cable with connecting terminal.

## Installing the cover

It is necessary to install a cover to protect the bus connection against hazardous voltages in the connection area.

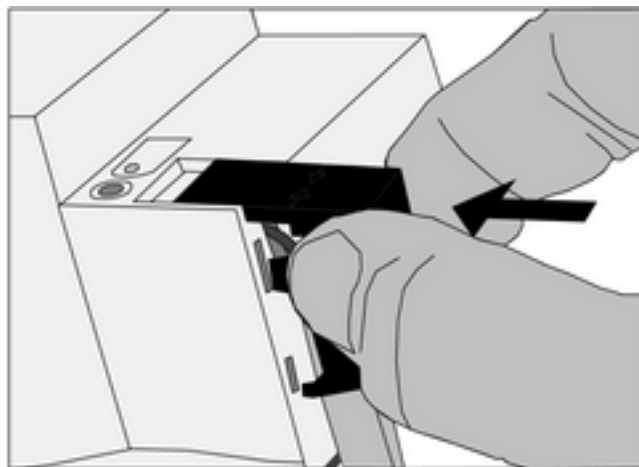


Figure 3: Installing the cover

- Route the bus cable towards the rear.

- Install cover on top of the bus terminal so that it snaps into place (figure 3).

### Removing the cover

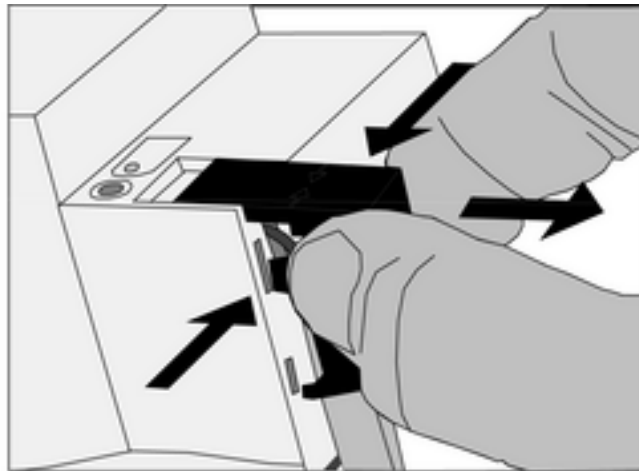


Figure 4: Removing the cover

- Press the cover to the side and pull it off (figure 4).

## 4.2 Commissioning

### Load the address and the application software

- Switch on the bus voltage
- Assign physical address.
- Load the application software into the device.
- Note the physical address on the device label.

## 5 Appendix

### 5.1 Technical data

Rated voltage	AC 230 / 240 V ~
Mains frequency	50 / 60 Hz
Power loss	approx. 2 W
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Heating outputs	
Contact type	Semi-conductor (Triac), ε
Switching voltage	AC 230 V / 240 V ~
Switching current	5 ... 50 mA
Switch-on current	max. 1.5 A (2 sec)
Number of drives per output	max. 4
Housing	
Fitting width	72 mm / 4 modules
Connection of outputs	
Connection mode	Screw terminal
Single stranded	0.5 ... 4 mm <sup>2</sup>
finely stranded without conductor sleeve	0.5 ... 4 mm <sup>2</sup>
finely stranded with conductor sleeve	0.5 ... 2.5 mm <sup>2</sup>
KNX	
KNX medium	TP 1
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV

Power consumption KNX  
Connection type for bus

max. 125 mW  
Connection terminal

## 5.2 Troubleshooting

### Actuators of an output or all outputs do not switch

Cause: An output is overloaded.

Determine cause of the overload switch-off. Eliminate short-circuits, replace defective actuators. Check number of actuators connected to the output, reduce if necessary. Do not exceed max. switching current.

Reset overload switch-off: disconnect device from mains completely for approx. 5 seconds, switch off miniature circuit-breaker. Then switch on again.

- i** In case of overload, initially one or both output groups switch off for approx. 6 minutes. After that the device determines which output is overloaded and switches it off permanently. This rest and test phase typically lasts 6...20 minutes.
- i** After resetting of the overload switch-off it is no longer possible for the device to determine which output is overloaded. If the cause is not eliminated, overload switch-off will occur again.

## 5.3 Accessories

Connection cover

Art.-No.: 2050 K

## 5.4 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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