Operating instructions

Heating actuator basic, 6-gang
Order no. 2114 00

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1 Safety instructions

Electrical devices may only be mounted and connected 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 because mains potential even is applied on the load when the device is switched off. Before carrying out work on the device or load, switch off all associated circuit breakers.

This manual is an integral part of the product, and must remain with the customer.

2 Device components

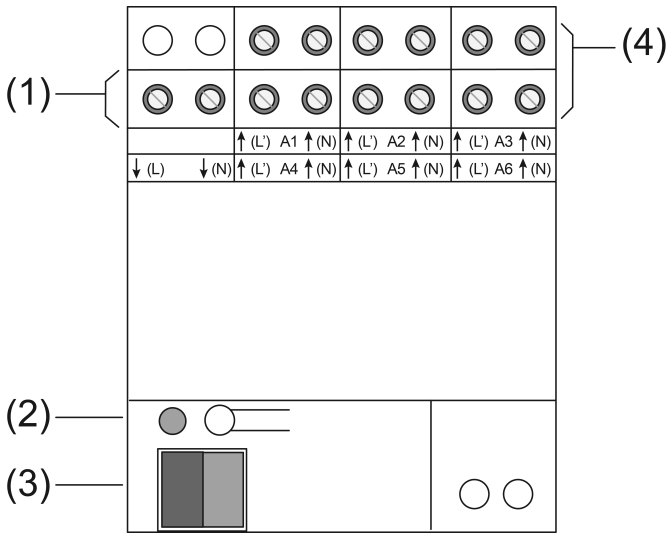

Image 1: Front view

(1) Supply of electrothermal valve drives
(2) Programming button and LEDs
(3) KNX connection
(4) Connection of electrothermal actuators

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 commis-

sioning 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 valve drives for heaters or cooling ceilings
- Installation in sub-distribution units on DIN rail according to DIN EN 60715

Product characteristics

- Switching operation or PWM operation
- Valve drives with characteristics opened or closed without power controllable
- Valve drives 230 V or 24 V controllable
- Disabling of individual outputs via bus
- Overload-protected, short circuit-protected
- Protection against jamming valves
- Cyclical monitoring of the input signals can be parameterized
- Feedback via bus, e.g. in case of overload or sensor failure
- Bus connection with standard bus terminal

PWM operation: electrothermal valve drives 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 valve drives, in case of overload or short-circuit 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 Mounting and electrical connection

DANGER!

Electric shock when live parts are touched.

Electric shocks can be fatal.

Always disconnect device before working on it. For this, switch off all corresponding circuit breakers, secure against being switched on again and check that there is no voltage. Cover up adjacent live parts.

Mounting the device

Observe the temperature range. Ensure adequate cooling.

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

Connecting the device

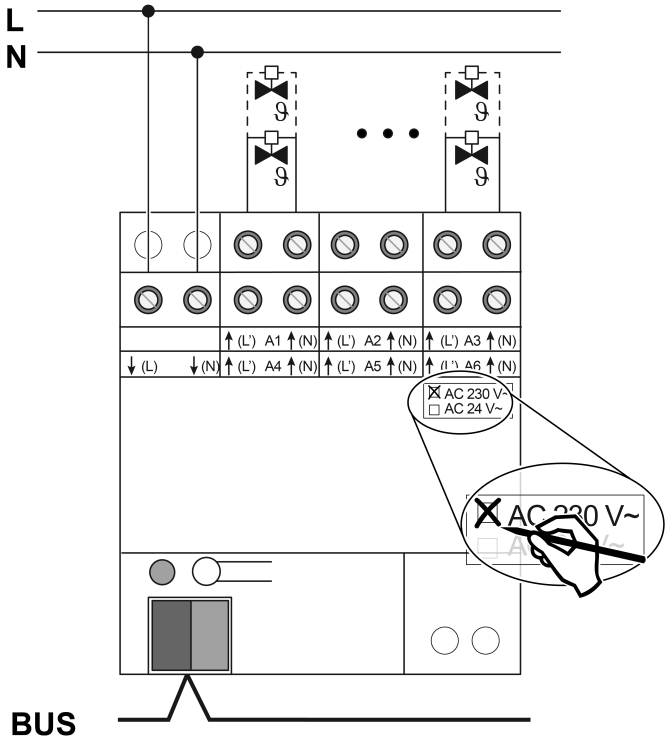

Image 2: Connection of actuators 230 V

Connect valve drives of AC 230 V or AC 24 V to all the outputs.

Only connect valve drives with the same characteristics to each output (deenergised closed/opened).

Do not connect any other 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 valve drives per output (see "Technical data").

Observe the technical data of the valve drives used.

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

- Connect the AC 230 V valve drives according to the connection diagram (see figure 2).
- Connect the AC 24 V valve drives according to the connection diagram (see figure 3).
- Connect the supply for the valve drives to the terminals ↓(L) and ↓(N) (1).
- Connect bus line with device connection terminal.

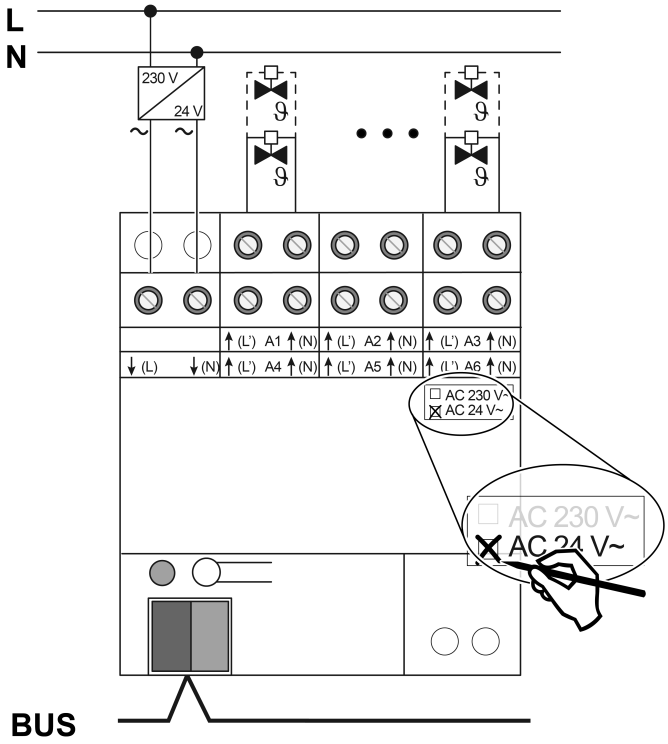

Image 3: Connection of actuators 24 V

Installing the cover

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

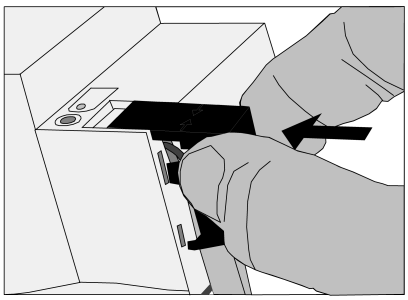

Image 4: Installing the cover

- Route the bus line towards the rear.
- Install cover on top of the bus terminal so that it snaps into place (see figure 4).

Removing the cover

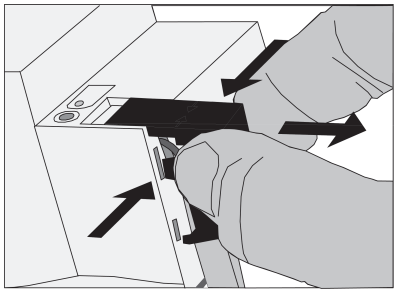

Image 5: Removing the cover

- Press the cover to the side and pull it off (see figure 5).

4.2 Commissioning

Load the address and the application software

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

5 Technical data

Ambient conditions	
Ambient temperature	+5 ... +45°C
Storage/transport temperature	-25 ... +70°C
KNX	
KNX medium	TP256
Commissioning mode	S-mode

Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	max. 250 mW
Power loss	max. 1 W
Heating outputs	
Contact type	Semi-conductor (Triac), ε
Switching voltage	AC 24 / 230 V ~
Mains frequency	50 / 60 Hz
Switching current	5 ... 160 mA
Switch-on current	max. 1.5 A (2 s)
Switch-on current	max. 0.3 A (2 min)
Number of drives per output	
230 V drives	max. 4
24 V drives	max. 2
Housing	
Installation width	72 mm / 4 HP
Connection of outputs	
Connection mode	Screw terminal
Single stranded	0.5 ... 4 mm²
Finely stranded without conductor sleeve	0.5 ... 4 mm²
Finely stranded with conductor sleeve	0.5 ... 2.5 mm²

6 Troubleshooting

Valve drives 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 valve drives. Check number of valve drives 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.

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 lasts 6 to 20 minutes.

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.

7 Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade. Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

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