Operating instructions

Analogue actuator, 4-gang
Order no. 1022 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. Always disconnect device before working on it. At the same time, take into account all circuit breakers that supply dangerous voltage to the device.

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

2 Device components

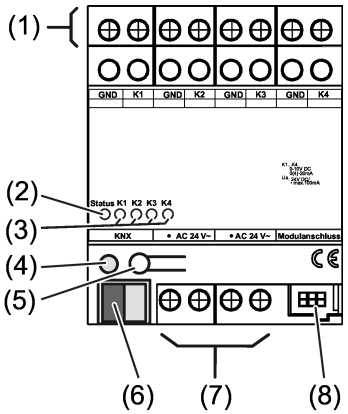

Image 1: Device components

(1) Analogue outputs **K1 ... K4**
(2) Status LED, device status, three colours (red, orange, green)
(3) Status LED, analogue outputs **K1 ... K4** (yellow)
(4) Programming LED
(5) Programming button
(6) KNX device connection terminal
(7) External supply voltage **AC 24V~**
(8) System connector, 6-pin

Multicoloured status LED, device status

Off	No power supply
Orange, lit up	Module scan via analogue actuator
Red, fast flashing	Error: No project / error in parameterisation
Red, slow flashing	Error: Undervoltage at the module connection / short-circuit U_s
Green, lit up	Everything OK

Flashing slowly = 1/s; flashing quickly = 2/s

Yellow status LED, analogue outputs A1 ... A4

Off	Output signal is equal to zero
On	Output signal is greater than zero

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

- Conversion of KNX telegrams (1-byte and 2-byte) into analogue output signals for controlling the actuators of the heating, ventilation and air conditioning units
- Parameterisation of the outputs to voltage signals or current signals via the ETS
- Operation with external 24 V power supply (see accessories).
- Mounting on DIN rail according to EN 60715 in distribution boxes

Product characteristics

- 4 independent analogue outputs
- Short-circuit monitoring of the voltage outputs
- Display of the output states via status LED
- Restraint of the output values possible
- Switch-off of unnecessary outputs

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.

Cover up live parts in the installation environment.

Mount the device

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

Electrical connection

CAUTION!

Device fault if connected to impermissible actuators or the actuators are connected incorrectly.

Device may be destroyed.

Do not connect any electronic ballasts or electronic transformers with 1-10 V control input to the outputs.

Do not connect the device and the connected actuators to a shared power supply (see figure 2). Actuator requiring an auxiliary voltage; only operate with a separate power supply (see figure 3).

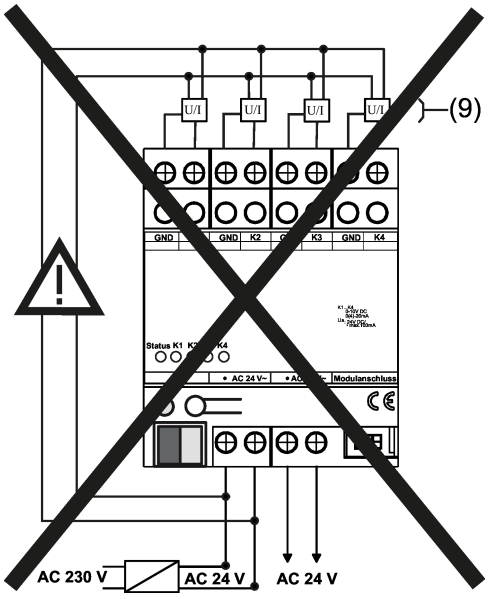

Image 2: Caution: incorrect connection

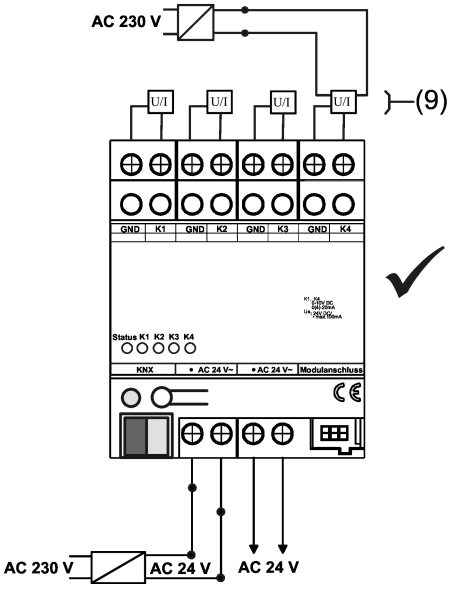

Image 3: Connection example

- Connect the bus line to the connection terminal (6) (see figure 1).
- External 24 V power supply, (see figure 3); connect to the connection terminal (7) (see figure 1).

i The connection terminals for the external 24 V power supply are provided double and are internally connected with each other; indicated with a dot "•".

Preconditions:
Load current outputs with a max. of 500 Ω.
Load voltage outputs with a min. of 1 kΩ.

- Connect the actuators (9) of the heating, ventilation and air conditioning units (see figure 3).

i **GND** connection terminal of the outputs **K1 ... K4** are internally connected with each other.

i In the event of a short circuit of a voltage output between **K1 ... K4** and **GND**, the corresponding output is switched off.

4.2 Commissioning

Load the address and the application software

- Switch on the bus voltage.

  Status LED (2) lights up orange; the analogue output carries out a module scan.

  Status LED (2) flashes red quickly.

- Press the programming button.

  The programming LED (4) lights up.

The status LED (2) flashes green slowly.

- Assign physical address.
  The programming LED (4) goes out.
- Write the physical address on the device label.
- Load the project onto the device.
  Status LED (2) lights up green; the project is loaded.

Configure analogue outputs

The analogue output signals enable the actuators of the heating, ventilation and air conditioning units to adapt their output values based on bus information and to participate in control processes.

The outputs are set to voltage signals or current signals via the ETS.

Voltage signals	0 ... 1 V DC	0 ... 10 V DC
Current signals	0 ... 20 mA DC	4 ... 20 mA DC

5 Technical data

Rated voltage	AC 24 V ±10%
Current consumption	max. 308 mA
Ambient temperature	-5 ... +45°C
Storage/transport temperature	-25 ... +70°C
Relative humidity	max. 93 % (no condensation)
Weight	approx. 180 g
Installation width	72 mm / 4 HP
Analogue outputs	
Number	4
Voltage range	0 ... 1 V DC, 0 ... 10 V DC
Current ranges	0 ... 20 mA DC, 4 ... 20 mA DC
Load, voltage signals	> 1 kΩ
Load, current signals	< 500 Ω
Clampable conductor cross-section, see (see figure 4)	

Image 4: Clampable conductor cross-section

KNX	
KNX medium	TP256

KNX commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	typ. 150 mW

6 Accessories

Power supply	Order no. 1024 00

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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