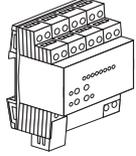


### Heating actuator REG-K/6x24/230/0.16A

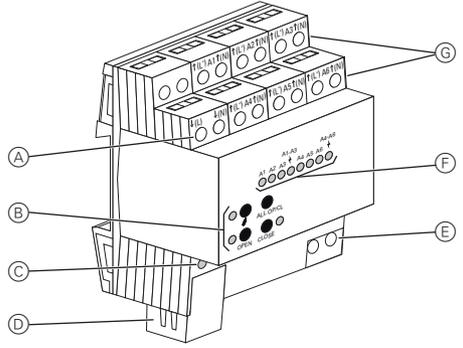
Operating instructions



Art. no. MTN6730-0001

- The highest active control value is provided (1 byte) for heat demand control.
- Pump control (1 bit) is ensured by monitoring setpoint limits and setting hysteresis.
- Automatic valve flushing to prevent limescale or seizing.
- Monitoring of inputs and forced position separately for summer and winter operation.
- Operating hour meter for recording activation times of the valve outputs.
- Locking of valve outputs in a defined state e.g. for maintenance work.
- Global settings for all valve outputs or separate settings for each output.

### Connections, displays and operating elements

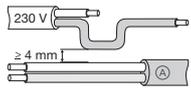


- (A) Terminals for power supply of the thermoelectric valve drives
- (B) Keypad with LED for manual operation
- (C) Programming LED and programming keypad
- (D) Bus connection under the cover
- (E) Terminals for mains supply
- (F) Status LED for each output
- (G) Terminals for thermoelectric valve drives

### Mounting the actuator

**DANGER**  
**Risk of death from electric shock.**  
 The outputs may carry an electrical current even when the device is switched off. Always disconnect the fuse in the incoming circuit from the supply before working on connected loads.

**WARNING**  
**Risk of death from electric shock. The device can be damaged.**  
 Safety clearance must be guaranteed in accordance with IEC 60664--1. There must be at least 4 mm between the individual cores of the 230 V supply cable and the SELV line (A).

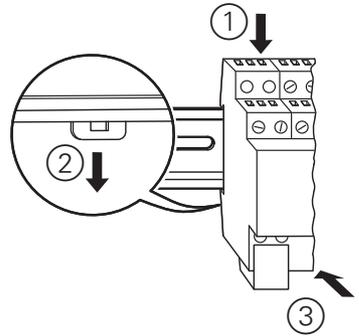


**CAUTION**  
**The device can become damaged.**

- Ensure that basic insulation is fitted. All devices that are mounted next to the actuator must at least be equipped with basic insulation.
- The neutral conductor terminals of the valve outputs are bridged internally. Do not connect the neutral conductor of the output N terminals to other devices or other loads. Only use the neutral conductors of the outputs to connect the electrothermic valve drives.

The installation site must provide sufficient cooling and air circulation. The permitted ambient temperature must be noted (see "Technical Data").

### Place the actuator onto the DIN rail



### Wiring the actuator

- i** Connection instructions
- Connect either AC 230 V or AC 24 V valve drives to all outputs.
  - Only attach valve drives with the same current characteristic to a specific output (de-energised closed/opened).
  - Do not attach any other loads.
  - Connect valve drives for frost-sensitive areas to outputs A1 and A4. These will be switched off last in the case of overload.
  - Do not exceed the maximum number of valve drives per output (refer to "Technical data").
  - Pay attention to the technical data of the valve drives used.
  - You can supply the device with bus voltage if required. It is however recommended to connect the mains voltage to terminals L and N. The outputs can be operated in manual operating mode if the bus voltage fails.

### Accessories

- Thermoelectric valve drive 230 V (Art. no. MTN639125)
- Thermoelectric valve drive 24 V (Art. no. MTN639126)

### For your safety

**DANGER**  
**Risk of serious damage to property and personal injury, e.g. from fire or electric shock, due to incorrect electrical installation.**

Safe electrical installation can only be ensured if the person in question can prove basic knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Connecting and establishing KNX networks

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation technology. If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.

### Getting to know the heating actuator

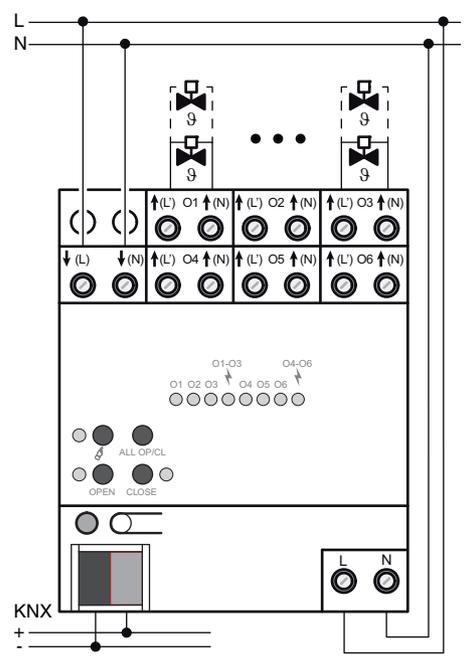
#### Overview of functions

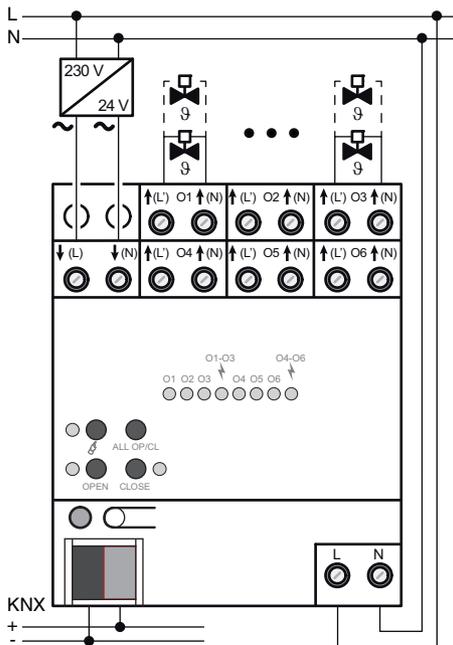
The heating actuator REG-K/6x24/230/0.16A (referred to below as the actuator) is designed to control thermoelectric valve drives for heating systems or cooling ceilings. It has 6 electronic outputs that can silently control thermoelectric valve drives using KNX telegrams. All outputs can also be operated manually. Up to four valve drives can be connected to each output (up to two for 24 V valve drives). It is installed on a TH 35 DIN rail in accordance with EN 60715.

#### Features

- For connection of valve drives of type AC 230 V or AC 24 V.
- Connection at each output of valve drives is either de-energised open or de-energised closed.
- The outputs are either controlled by switch (1 bit) or by a PWM signal (1 byte).
- There is overload and short-circuit protection at each output with an LED display for output groups.
- Feedback is provided via KNX e.g. if the mains fail, there is an overload or a sensor failure.
- Manual operation is performed without the bus (construction site operation).

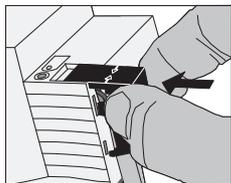
### Connection diagram (A) valve drives AC 230 V





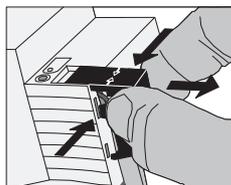
- 1 Connect valve drives: AC 230 V in accordance with connection diagram (A) or AC 24 V in accordance with connection diagram (B).
- 2 Connect power supply for valve drives at terminals ↓(L) and ↓(N).
- 3 Connect mains voltage at terminals L and N.
- 4 Connect bus line to connecting terminal and attach cover (refer to figure below).

**Attaching the cover**



- 1 Feed the bus line towards the rear.
- 2 Press the cover onto the bus terminal until it locks into place.

**Removing the cover**



- 1 Push the cover sideways and pull it off.

**Putting the actuator into operation**

- 1 Press the programming push-button. The programming LED lights up.
- 2 Load the physical address and application into the device from the ETS.

The programming LED goes out.

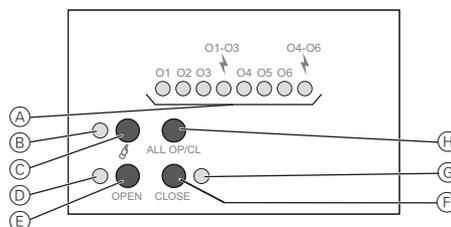
The operational LED lights up: the application has been loaded successfully and the device is operative.

**Operating the actuator**

**Operating modes**

Operating mode	Operation
Bus mode	Operation via KNX ambient temperature regulator or other bus devices. The KNX can be used to lock and unlock manual operating mode. If the bus fails, manual operation is possible.
Short-term manual operation	Manual operation on site with the keypad. The system returns automatically to bus mode.
Permanent manual operation	Exclusively local manual operation with the keypad.

**Operating elements**



Element	Function
(A) O1 - O6	Status LED for each output
(A) ⚡ O1-O3	Display "Overload/short circuit" output group
(A) ⚡ O4-O6	Display "Overload/short circuit" output group
(B) LED ⚡	On: Permanent manual operation
(C) Push-button ⚡	Manual operation
(D) OPEN LED	On: Valve open, manual operating mode
(E) OPEN push-button	Open valve
(F) CLOSE push-button	Close valve
(G) CLOSE LED	On: Valve closed, manual operating mode
(H) ALL OP/CL push-button	Open and close all valves one after the other

**Status display and output properties**

The status LEDs O1 - O6 (A) show whether the current at a specific output is switched on or off. The connected heating or cooling valves open and close according to their characteristic.

Valve drive	LED On	LED Off
De-energised closed	Heating/cooling: Valve open	Off: Valve closed
De-energised open	Off: Valve closed	Heating/cooling: Valve open

LED	Output properties
On	Electrically activated
Off	Electrically deactivated
Flashing slowly	Manual operation
Flashing fast	Locked via permanent manual operation mode

**Manual operation**

**Activating short-term manual operating mode**

Operation with the keypad is programmed and is not blocked.

- 1 Press push-button ⚡ briefly (< 1 s). Status LED O1 flashes, LED ⚡ remains OFF.

After 5 seconds of the push-button not being pressed the actuator automatically switches back to bus mode.

**Deactivating short-term manual operating mode**

The actuator is in short-term manual operating mode.

- 1 Do not press the push-button for 5 seconds or press the push-button ⚡ repeatedly briefly until the actuator leaves short-term manual operating mode.

LED O1 ... no longer flashes; instead it shows the output status.

**Activating permanent manual operating mode**

Operation with the keypad is programmed and is not blocked.

- 1 Press push-button ⚡ for at least 5 seconds. LED ⚡ lights up, Status-LED O1 flashes, permanent manual operating mode is activated.

**Deactivating permanent manual operating mode**

The actuator is in permanent manual operating mode.

- 1 Press push-button ⚡ for at least 5 seconds. LED ⚡ is off; bus mode is activated.

**Operating outputs**

The outputs can be operated directly in manual operating mode.

The actuator is either in permanent or short-term manual operating mode.

- 1 Press push-button ⚡ repeatedly briefly (< 1 s) until the desired output has been selected.

LED of selected output O1 ... flashes.

LED OPEN and CLOSE display the status.

- 2 Press OPEN push-button.

Valve opens.

- 3 Press CLOSE push-button.

Valve closes.

LED OPEN and CLOSE display the status.

Short-term manual operating mode: After running through all outputs the actuator leaves manual operating mode when the push-button is pressed again briefly.

**Simultaneous operation of all outputs**

The actuator is in permanent manual operating mode.

- 1 Press ALL OP/CL push-button.

All valves open and close one after the other.

**Blocking individual outputs**

Blocked outputs can only be operated in manual operating mode.

The actuator is in permanent manual operating mode.

- 1 Press push-button ⚡ repeatedly briefly until the desired output has been selected.

Status LED of selected output O1 ... flashes.

- 2 Press OPEN and CLOSE push-buttons simultaneously for at least 5 s.

Selected output is blocked.

Status LED of selected output O1 ... flashes quickly.

Activate bus mode (refer to section "Deactivating permanent manual operating mode").

### Unblocking individual outputs

The actuator is in permanent manual operating mode.

- 1 Press push-button  repeatedly briefly until the desired output has been selected.
- 2 Press **OPEN** and **CLOSE** push-buttons simultaneously for at least 5 seconds.

Selected output is unblocked.

LED of released output flashes slowly.

Activate bus mode (refer to section "Deactivating permanent manual operating mode").

### What should I do if there is a problem?

#### Short circuit and overload

- **Valve drives at one output or all outputs are not switching.**
- **LED  O1-O3** and/or **LED  O4-O6** is lit.
- **KNX error messages at each output** (if parametrised).

Causes: Short circuit or overload.

Have a skilled electrician rectify the cause (refer to the "For your safety" section).

Measures for electricians:

- 1 Determine cause of the overload deactivation.
  - Fix short circuits.
  - Replace defective valve drives.
  - Check number of valve drives per output.
  - Check maximum switching current at each output.
- 2 Reset overload deactivation: Disconnect device completely from the mains for approx. 5 seconds; switch off circuit breaker. Then turn it back on.



#### Behaviour on overload

- When the device is overloaded, either one or both of the output modules immediately turns off for approx. 6 minutes. Then the device determines which output has been overloaded and deactivates it permanently. This period of downtime during which checks are performed takes 6 to 20 minutes.
- Once an overload switch has been reset, the device can no longer detect which output had previously been overloaded. If the cause is not eliminated the device will be deactivated again due to overload.

### Technical data

KNX power supply:	DC 24 V
KNX power consumption:	max. 250 mW
Mains power supply:	AC 110 - 230 V, 50/60 Hz
Standby power:	max. 0.4 W
Power loss:	max. 1 W
KNX connection:	KNX connecting terminal
Mains and output connection:	Screw terminals 0.5 - 4 mm <sup>2</sup> single-wired or finely stranded without ferrule 0.5 - 2.5 mm <sup>2</sup> finely stranded with ferrule
Outputs:	6 pieces
Contact type:	Electronic
Switching voltage:	AC 24/230 V
Switching current:	5 - 160 mA
Starting current:	max. 1.5 A (2 s) per output
Starting current:	max. 0.3 A (2 min) per output
Number of thermoelectric valve drives that can be connected:	230 V drives: max. 4 per output (depending on model) 24 V drives: max. 2 per output (depending on model)
Ambient temperature:	-5 °C to +45 °C
Installation width:	72 mm (4 modules)

### Schneider Electric Industries SAS

If you have technical questions, please contact the Customer Care Centre in your country.

[www.schneider-electric.com](http://www.schneider-electric.com)