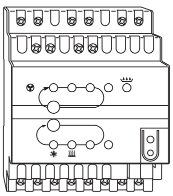
GB

Schneider Electric

KNX Fan coil actuator REG-K

Operating instructions



Art. no. MTN645094

For your safety

DANGER

Risk of fatal injury from electrical current.
All work carried out on the unit may only be performed by skilled electricians. Observe the regulations valid in the country of use, as well as the valid KNX guidelines.

Getting to know the actuator

The fan coil actuator REG-K (reffered to below as the **actuator**) is a DIN rail-mounted device for connection to a Bus KNX. The actuator is suitable for 2-pipe and 4-pipe systems. It controls up to 3 fan stages as well as 2 or 3-point heating and cooling valves. An additional relay enables the actuator of an electrical heater or a cooler bank.

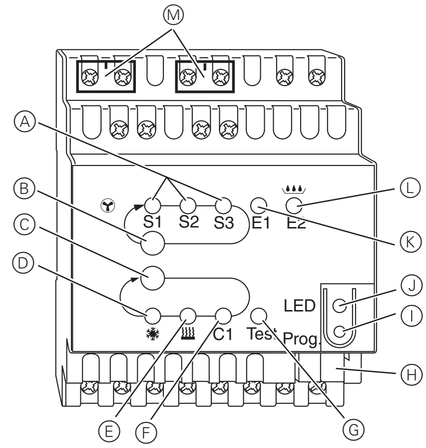
The actuator features 2 inputs for floating contacts, e.g. window contact and condensate monitoring (the window contact input can be reconfigured as a temperature sensor input in the ETS software).

Necessary accessories

The fan coil actuator is suited with a connection terminal for the accessorie temperature sensor (art. no. MTN645091).

Only operate the fan coil actuator in connection with a multi-function push-button with room temperature control (art. no. MTN6232.., MTN6273.., MTN6236.., MTN6287.., MTN6288..).

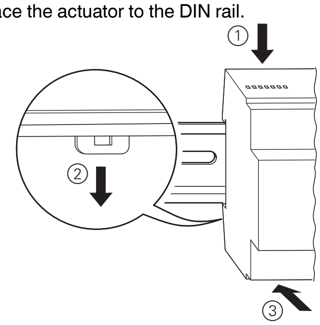
Connections, displays and operating elements



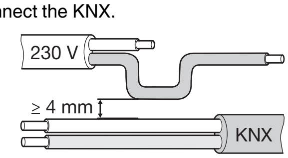
- Ⓐ LED S1-S3: Display of fan stage
- Ⓑ Test button: Fan stage
- Ⓒ Test button: Valves and additional relay C1
- Ⓓ LED: Cooling valve
  LED flashes = open heating valve, but cooling valve is still open
- Ⓔ LED: Heating valve
  LED flashes = open cooling valve, but heating valve is still open
- Ⓕ LED: Additional Relay
- Ⓖ LED: Test mode activated
- Ⓗ Bus connecting terminal
- Ⓘ Programming button
- Ⓙ LED: Programming
- Ⓚ LED: window contact or sensor
  LED flashes = sensor break
- Ⓛ LED: Contact free input or condensate
- Ⓜ Cover for network connection terminal

How to install the actuator

① Place the actuator to the DIN rail.



② Connect the KNX.



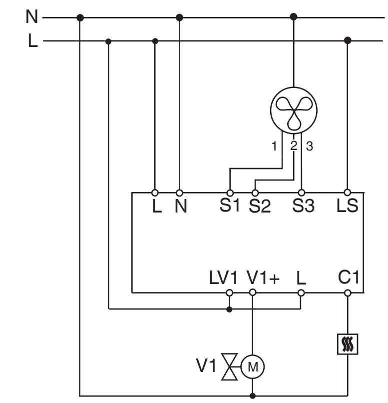
CAUTION

Risk of fatal injury from electrical current.
The device may become damaged.
You must ensure that a safety clearance is maintained in accordance with IEC 60664-1. A distance of at least 4 mm must be maintained between individual cores of the 230 V cable and the KNX cable.

③ Mount the supply mains cover after the connection on the connection screws of the supply mains.

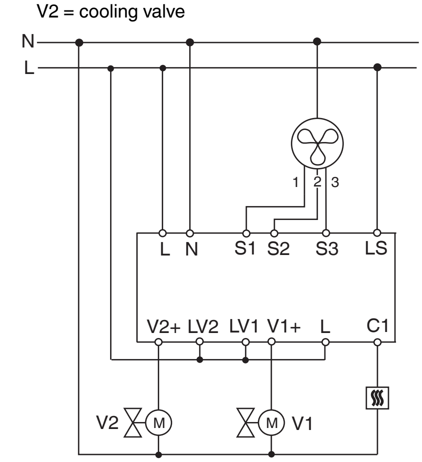
How to connect a 2-point valve with heating or cooling and additional stage

① Connect the 2-point valves and the additional stage.
V1= heating or cooling valve



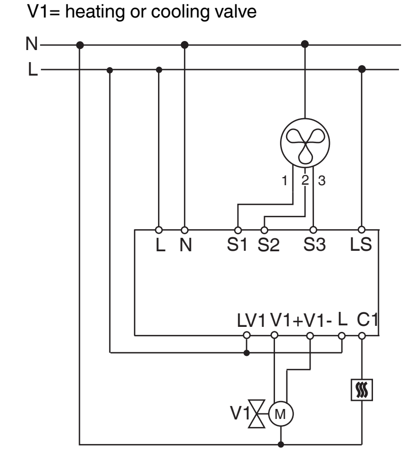
How to connect a 2-point valve with heating/cooling and additional stage

① Connect the 2-point valves and the additional stage.
V1= heating valve
V2 = cooling valve



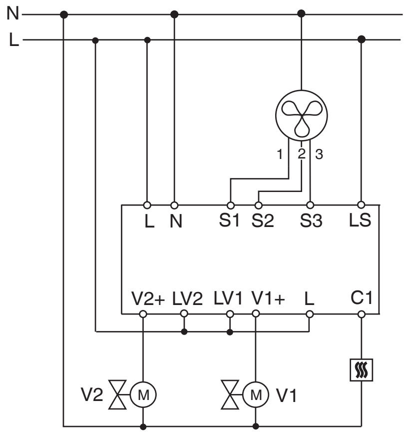
How to connect a 3-point valve with heating or cooling and additional stage

① Connect the 3-point valves and the additional stage.
V1= heating or cooling valve



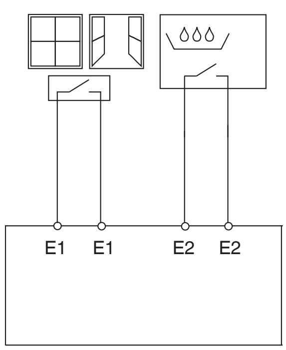
How to connect a 3-point valve with heating/cooling and additional stage

① How to connect the 3- point valve and the additional stage.
V1= heating valve
V2 = cooling valve



How to connect the inputs

Connect the inputs as shown below:



How to operate the actuator

① Press programming key

The programming LED lights up.

② Load the physical address and application into the device from the ETS.

The programming LED goes out.

The application has been loaded successfully; the device is operative.

Test mode

The test mode is used to check the system, e.g. during start-up or troublr shooting. In this mode, the valves and the fans can be set by hand as required using the appropriate keys. A temperature sensor and/or window contacts (input 1 and 2) can also be checked.

Important information about the test mode

- Both the control and the bus telegrams are ineffective to the device.
- All settings are possible without any restrictions.
- The fan stages and the valves are always supplied with power in sequence, irrespective of the parameters.
- The valves and the fan are actuated until they are switched off again by hand.
- Condensate alarm is not taken into account.

Avoid non-permitted operating stages as e.g. heating and cooling valves are open at the same time or a valve is continuously supplied with power!

Activate test mode without loaded application

- Following Reset, e.g. after download or applying the bus voltage the test LED flashes for 1 s, the actuator is then in normal use.
- At initial start-up, e.g. no application program is loaded, the test LED flashes permanently.
- As long as the test LED flashes, the test mode can be activated by pressing keys Ⓑ and Ⓒ. The actuator switches to the test mode and the LED flashes permanently.

Controlling fan

① Press the test key Ⓑ, the fan stages will be enabled one after the other.

Controlling valves and switching additional relay

① Press test key Ⓒ repeatedly, the required valve or the additional relay C1 is selected.

The active function and the output status are displayed by the corresponding LED.

	LED status	3-point valve	2-point valve
	Off	Valve is not actuated	
	On	Valve opens(V2+)	
	Flashes	Valve closes(V2-)	
	Off	Valve is not actuated	
	On	Valve opens(V1+)	
	Flashes	Valve closes(V1-)	

Checking temperature sensor

- If a temperature sensor is connected to input E1, the measured room temperature is sent by KNX object 14. The application software must be parametrized for this.
- A snsor break or short-circuit in the sensor line are signalled by the value - 60°C. Additionally LED E1 flashes.

Check window contacts

- If a window contact is connected to input E1, the window status (open or close) is sent by KNX object 14. The application software must be parametrized for this.
- Likewise, input E2 (KNX object 16, condensate monitoring or window contact) can be checked.

Close test mode

- Test mode is closed with a Reset. A Reset can be activated by the follwing condition:

① Press keys Ⓑ and Ⓒ at the same time (>2 s)

How to handle mains/Bus failures

In the event of network/bus failure, all relays connected are opened regardless of how they have been parameterised via the software.

Network failure detection for 3-point valve

If the mains voltage fails while a 3-point valve is being positioned, the valve position is unknown upon mains recovery. This is why the mains voltage at terminals L and N is monitored. Upon mains recovery, the valve is first completely closed and then moved to the correct position. This function is only possible when the device and the valves are connected to the same electrical circuit.

Technical data

Operating voltage:	230V AC +/- 10%
Nominal frequency:	50 Hz
Power consumption:	max. 3 W
Power supply from KNX:	DC 24 V, max. 12 mA
Max. cable lenght E1 and E2:	5 m
Mode of operation:	Type 1
Outputs	
Valves:	0,5 A (24-230 V AC)
Additional relay(C1):	16 A
Fan relay:	8 A
Ambient temperature:	-5°C to +45°C
Protection class:	II subject to correct installation
Type of protection:	IP 20 according to EN 60529
Device standard:	EN 60730-1
Low-voltage directive:	73/23/EEC
EMC directive:	89/336/EEC

Schneider Electric Industries SAS

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

www.schneider-electric.com

This product must be installed, connected and used in compliance with prevailing standards and/or installation regulations. As standards, specifications and designs develop from time to time, always ask for confirmation of the information given in this publication.

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