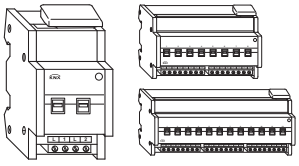
en

Schneider Electric

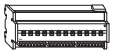
SpaceLogic KNX
Switch actuator REG-K/x230/16 with manual mode and current detection

Operating instructions



SpaceLogic KNX
Switch actuator REG-K/2x230/16 with manual mode and current detection
Art. no. MTN647395

SpaceLogic KNX
Switch actuator REG-K/8x230/16 with manual mode and current detection
Art. no. MTN647895



SpaceLogic KNX
Switch actuator REG-K/12x230/16 with manual mode and current detection
Art. no. MTN648495

For your safety

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Connecting and establishing KNX networks
- Safety standards, local wiring rules and regulations

Failure to follow these instructions will result in death or serious injury.

⚠⚠ DANGER

RISK OF FATAL INJURY FROM ELECTRIC SHOCK

The output may carry electrical current even when the load is switched off.

- When working on the device: Always disconnect the device from the supply by means of the fuse in the incoming circuit.
- Even if the manual switch is in the „OFF“ position, a KNX telegram can switch the connections to being live at any time. Before working on the device, always diconnect the fuse in the incoming circuit from the supply.

Failure to follow these instructions will result in death or serious injury.

⚠ CAUTION

The device may be damaged!

- Always operate the product in compliance with the specified technical data.
- Do not use the current detection function for applications relevant to safety.
- Connect only pure ohmic loads to a channel with direct current (DC).
- Only install devices with at least basic insulation next to the device.

Failure to follow these instruction can result in equipment damage.

Getting to know the actuator

The switch actuator REG-K/x230/16 with manual mode and current detection (referred to below as the **actuator**) can switch

– two loads (MTN647395) or
– eight loads (MTN647895) or
– twelve loads (MTN648495)

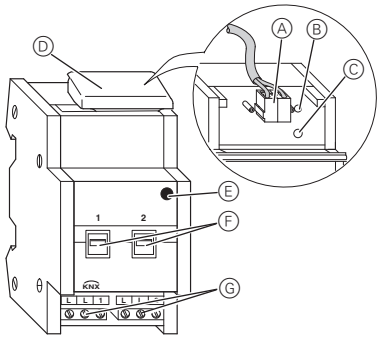
via separate, floating make contacts.

You can also manually switch the connected loads with manual switches on the actuator without bus voltage.

The actuator has a bus coupler. It is installed on a DIN rail TH 35 according to EN 60715, with the bus connection made via a bus connecting terminal. It is supplied with power from the bus voltage. A data rail is not required.

The actuator also has integrated current detection wich measures the load current of each channel.

Connections, displays and operating elements

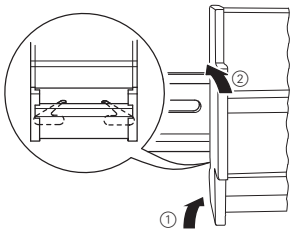


Ⓐ Bus connection terminal, max. 4 core pairs
Ⓑ Programming LED (red)
Ⓒ Programming button
Ⓓ Cable cover
Ⓔ Operating LED „RUN“ (green)
Ⓕ Manual switch
Ⓖ Screw terminals

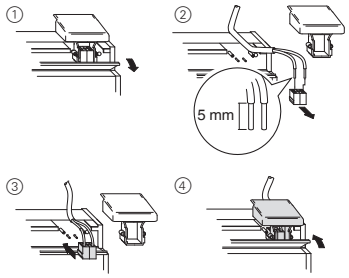
Mounting the actuator

CAUTION
Strong magnetic fields can influence the current measurement. Install devices with a strong magnetic field (e.g. wound transformers such as bell transformers) at least 2 cm away from the actuator.

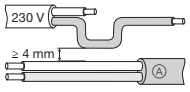
① Set the actuator onto the DIN rail.



② Connect KNX.



WARNING
Risk of death from electric shock. The device can become 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 KNX line Ⓐ.



⚠⚠ DANGER

RISK OF FATAL INJURY FROM ELECTRIC SHOCK

Voltage may be present at the outputs when the mains voltage is connected to the system.

If subjected to strong vibrations during transportation, the switch contacts might change to the enabled state.

After connecting the bus voltage, set the relays of the channels to the position desired simply by switching „On/Off“ or by changing the manual switch to „OFF“.

Failure to follow these instructions will result in death or serious injury.

⚠ CAUTION

The device may be damaged!

- Protect the switch contacts with a series-connected 16 A circuit breaker.

Failure to follow these instruction can result in equipment damage.

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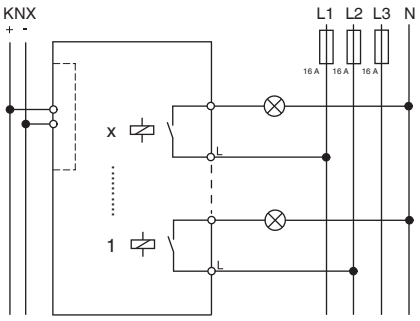
③ Connect the bus voltage.
④ Wait at least 30 seconds.
⑤ Switch the relays of the channels on and off manually once with the manual switches.
⑥ Connect the load.



⑦ Connect the mains voltage.

Now you can check the functionality of the actuator and the connected loads without having to load the application from the ETS (See the section "Operating the actuator").

Putting the actuator into operation

① Press the programming 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 operation LED lights up: The application was loaded successfully, the device is ready for operation.

Operating the actuator

Normally, you control connected devices using push-buttons or by remote control. However, you can manually switch each of the actuator's channels on and off directly at the manual switches.

What should I do if there is a problem?

The green LED „RUN" is not lit.

- The bus voltage has failed.
  - Check the bus voltage, only manual operation is possible.
- The application was not loaded properly.
  - Load it again.

Technical data

Power supply from bus:	DC 24 V / approx. 16 mA

For alternating current (AC) per channel

Nominal voltage:	AC 100–240 V ±10%
Operation voltage:	min. AC 90 V – max. AC 265 V
Mains frequency:	50–60 Hz ±10%
Nominal current:	16 A, cosφ=0.6
Connected load	
Incandescent lamps:	1600 W at AC 100 V 3600 W at AC 230 V 3840 W at AC 240 V
Halogen lamps:	1086 W at AC 100 V 2500 W at AC 230 V 2608 W at AC 240 V
Fluorescent lamps:	1086 VA at AC 100 V 2500 VA at AC 230 V 2608 VA at AC 240 V parallel compensated
Capacitive load:	16 A, 200 µF at AC 100 V 16 A, 200 µF at AC 230 V 16 A, 200 µF at AC 240 V
Motor load:	434 W at AC 100 V 1000 W at AC 230 V 1043 W at AC 240 V
Switching frequency:	max. 10 per minute at nominal load
Fuse:	one 16 A circuit breaker connected upstream per channel
Current detection (load current)	
Detection range (sine effective value):	0.1–16 A
Sensing accuracy:	±8% from the existing current value (sine) and ±100 mA
Frequency:	50/60 Hz
Display:	100 mA
Sensing speed (τ):	200 ms

For direct current (DC) per channel

Nominal voltage:	DC 12–24 V ±10%, 0.1–16 A
Nominal current:	16 A

CAUTION: Connect only pure ohmic loads to a channel with direct current (DC).

Switching frequency:	max. 10 per minute at nominal load
Fuse:	one circuit breaker capable of operating with direct current connected upstream per channel
Current detection (load current)	
Detection range:	0.1–16 A
Sensing accuracy:	±8% from the existing current value and ±100 mA
Display:	100 mA
Sensing speed (τ):	200 ms

Ambient temperature:	
Operation:	-5 °C to +45 °C
Max. humidity:	93 %, no moisture condensation
Environment:	can be used at up to 2000 m above sea level (MSL)
Operating elements:	1 programming button 2 manual switches
Display elements:	1 red LED: programming check 1 green LED: ready for operation „RUN"
Connections	
Bus:	via two 1 mm pins for bus connecting terminal
Load:	1 x 2-gang screw terminal for max. 2.5 mm^2 with one conductor or max. 1.5 mm^2 with two conductors per channel
EC directives:	Low voltage directive 2006/95/EC EMC-directive 2004/108/EC
Device width	
MTN647395:	2.5 modules = approx. 45 mm
MTN647895:	8 modules = approx. 140 mm
MTN648495:	12 modules = approx. 210 mm

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