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

Operating instructions

Connections, displays and operating elements

Mounting the actuator

1. Set the actuator onto the DIN rail.
2. Connect KNX.
3. Connect the bus voltage.
4. Wait at least 30 seconds.
5. Set the relays of the channels to the position desired simply by switching "On/Off" or by changing the manual switch to "OFF".

For your safety

DANGER
Risk of fatal injury from electrical current. The device may only be installed and connected by trained electricians. Observe the country-specific regulations as well as the valid KNX guidelines.

WARNING
Do not use the current detection function for applications relevant to safety.

CAUTION
The device can be damaged. - Only operate the device in accordance with the specifications stated in the Technical Data. - All devices that are installed next to the actuator must be equipped with at least basic insulation. - Connect only pure ohmic loads to a channel with direct current (DC).

Getting to know the switch actuator

The switch actuator REG-K/x230/16 with current detection and manual mode (hereinafter referred to as 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 (DIN 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 which measures the load current of each channel.

DANGER
Risk of fatal injury from electrical current. 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".

WARNING
Risk of fatal injury from electrical current. 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 KNX cable.

Commissioning the actuator

1. Press the programming button.
2. Load the physical address and application into the device from the ETS.
3. Connect the bus voltage.
4. Wait at least 30 seconds.
5. Set the relays of the channels to the position desired simply by switching "On/Off" or by changing the manual switch to "OFF".

Operating the actuator

Connected devices are usually controlled 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 fault?

The green operational LED “RUN” is not lit.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
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<tbody>
<tr>
<td>The bus voltage has failed.</td>
<td>Check bus voltage, only manual operation is possible.</td>
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<tr>
<td>The application was not loaded properly.</td>
<td>Load it again.</td>
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</tbody>
</table>

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CAUTION
The actuator can be damaged. Protect the switch contacts with a series-connected 16 A circuit breaker.

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Technical data

For alternating current (AC) per channel:
Nominal voltage: AC 230 V, 50/60 Hz
Nominal current: 16 A, cos ϕ = 0.6
Incandescent lamps: AC 230 V, max. 3600 W
Halogen lamps: AC 230 V, max. 2500 W
Fluorescent lamps: AC 230 V, max. 2500 VA, with parallel compensation
Capacitive load: AC 230 V, 16 A, max. 200 µF
Motor load: AC 230 V, max. 1000 W
Switching frequency: max. 10x 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 A to 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
Switching frequency: max. 10x per minute at nominal load
Fuse: one circuit breaker capable of operating with direct current per channel, connected upstream
Current detection (load current):
Detection range: 0.1 A to 16 A
CAUTION: Connect only pure ohmic loads to a channel with direct current (DC).
Sensing accuracy: ± 8% from the existing current value (sine) and ± 100 mA
Display: 100 mA
Sensing speed (τ): 200 ms

Ambient temperature
Operation: -5 °C to 45 °C
Environment: Can be used at up to 2000 m above mean sea level (MSL)
Max. humidity: 93% relative humidity, no moisture condensation

Operating elements:
1 programming button
1 manual switch per channel
Display elements:
1 red LED: programming check
1 green LED: ready for operation, "RUN"
KNX connection: Two 1 mm pins for bus connecting terminal
Load connection: one 2-gang screw terminal per channel for max. 2.5 mm² with one conductor or max. 1.5 mm² with two conductors
Device width:
MTN647395 2.5 modules = ca. 45 mm
MTN647895 8 modules = ca. 140 mm
MTN648495 12 modules = ca. 210 mm

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