Switch actuator, 2-gang
Art. No. 2302.16 REG HM
Switch actuator, 4-gang
Art. No. 2304.16 REG HM
Switch actuator, 8-gang
Art. No. 2308.16 REG HM
Switch actuator, 4-gang, C-load
Art. No. 2304.16 REG C HM
Switch actuator, 8-gang, C-load
Art. No. 2308.16 REG C HM

Operating instructions

1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

Failure to observe the instructions may cause damage to the device and result in fire and other hazards.

Danger of electric shock. Device is not suitable for disconnection from supply voltage.

Danger of electric shock on the SELV/PELV installation. Do not connect loads for mains voltage and SELV/PELV together on a single switch actuator.

Do not connect any three-phase motors. Device can be damaged.

Do not use the current detection and load monitoring functions for safety-related applications e.g. overload detection.

For the outputs, use circuit breakers for the respective rated current. Device can be damaged.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components

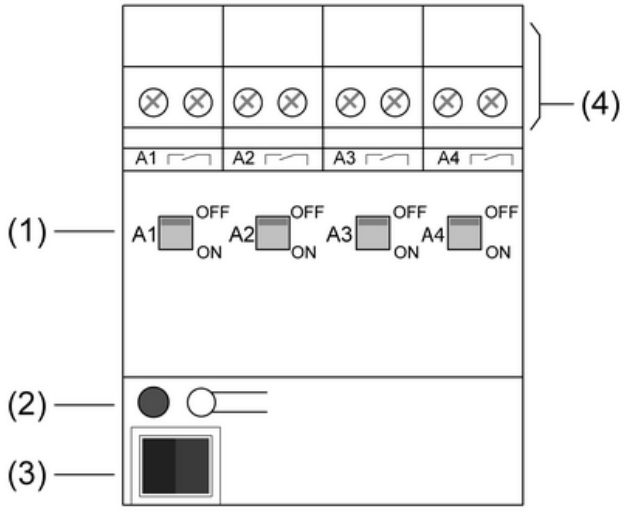

Figure 1: View of switch actuator 4gang

(1) Slide switch/Status indication
(2) Programming button and LEDs
(3) KNX connection
(4) Connection of relay outputs

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. Full functionality with KNX commissioning software version ETS3.0d onwards.

An updated version of the product database, technical descriptions and conversion programs and other auxiliary programs are available on our Internet website.

Intended use

- Switching of 230 V AC or 24 V AC/DC electrical loads with floating contacts
- Mounting on DIN rail according to EN 60715 in distribution boxes

Product characteristics

- Manual switching of the relays is independent of the bus.
- Operation as NO or NC contacts
- Logic and restraint function
- Switching feedback (bus operation only)
- Switch position display
- Central switching function with collective feedback
- Disabling function for each channel
- Timing functions: switch-on delay and run-on time, staircase lighting timer with pre-warning function
- Integration into light scenes
- Operating hours meter, configurable via bus
- Input monitoring for cyclical updating with safety circuit
- No additional power supply necessary

i When controlled by a central telegram the relay outputs of the actuator switch with a slight time delay.

Additional characteristics of C load switch actuators

- Current detection: measurement of the load current for each output
- Monitoring of threshold values for load monitoring, e.g. for reporting load drop-out
- Switching of capacitive loads and the resulting high switch-on currents

4 Operation

Switching relay contacts manually

The status of the relay is reflected by the slide switches (1) on the front of the device (figure 1). At the same time they can be used for manual operation of the relay outputs using a suitable tool.

- Move slide switch to **ON** position.

  Relay contact is closed, load is switched on.
- Move slide switch to **OFF** position.

  Relay contact is open, load is switched off.

i The position of the slide switch immediately reflects the status of the relay, regardless of whether the output is in NO or NC mode of operation.

i Manual switching of the relays is independent of the bus. Thus in case of manual switching there will be no feedback via the bus.

i Outputs disabled via software can still be switched manually.

5 Information for electrically skilled persons

5.1 Fitting and electrical connection

DANGER!
Electrical shock when live parts are touched.
Electrical shocks can be fatal.
Before carrying out work on the device or load, disengage all the corresponding circuit breakers. Cover up live parts in the working environment.

Fitting the device

Observe the temperature range. Ensure adequate cooling.

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

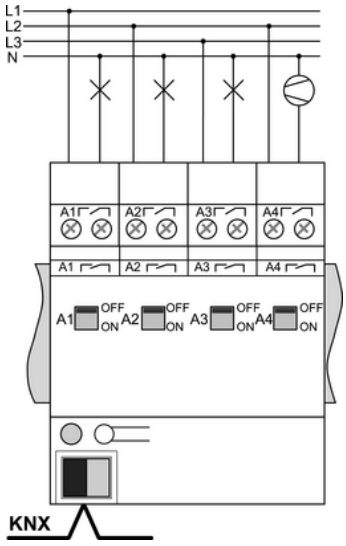

Figure 2

Connecting the device

Note permitted loads.

- Move relay to the **OFF** position.
- Connect device as shown in the connection example (figure 2).
- Connect bus line with bus connection terminal.

i Various external conductors can be connected.

i Devices for C loads use non-contact current sensors for current measurement. Magnetic fields in the immediate vicinity may distort the current measurement. Lay forward and return conductors next to each other as close as possible. Do not install in the immediate vicinity any devices that generate magnetic fields, e.g. doorbell transformers, power contactors, etc.

Installing the cover

It is necessary to install a cover to protect the bus connection against hazardous voltages in the connection area.

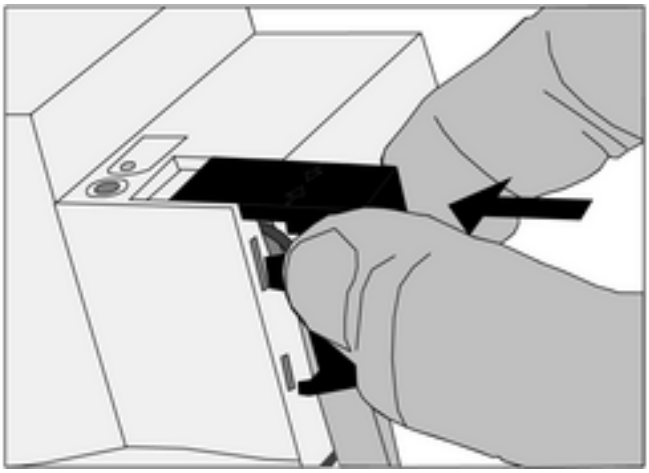

Figure 3: Installing the cover

- Route the bus line towards the rear.
- Install cover on top of the bus terminal so that it snaps into place (figure 3).

Removing the cover

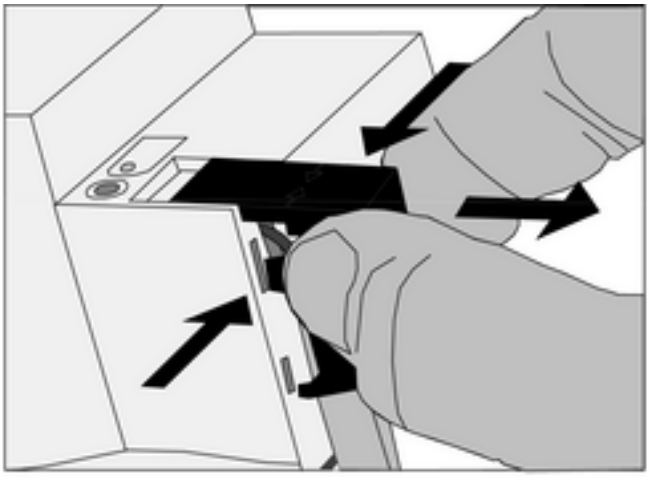

Figure 4: Removing the cover

- Press the cover to the side and pull it off (figure 4).

5.2 Commissioning

Load the address and the application software

- Switch on the bus voltage.
- Assign physical address.
- Load the application software into the device.
- Note the physical address on the device label.

6 Appendix

6.1 Technical data

KNX	
KNX medium	TP 1
Commissioning mode	S-mode

Rated voltage KNX	DC 21 ... 32 V SELV
Connection type for bus	Connection terminal
Power consumption KNX	
Art. No. 2302.16 REG HM	typical 150 mW
Art. No. 2304.16 REG HM	typical 150 mW
Art. No. 2308.16 REG HM	typical 150 mW
Art. No. 2304.16 REG C HM	typical 240 mW
Art. No. 2308.16 REG C HM	typical 240 mW
Power loss	
Art. No. 2302.16 REG HM	max. 2 W
Art. No. 2304.16 REG HM	max. 4 W
Art. No. 2308.16 REG HM	max. 8 W
Art. No. 2304.16 REG C HM	max. 4 W
Art. No. 2308.16 REG C HM	max. 8 W
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Current detection (sine)	
Mains frequency	
Art. No. 2302.16 REG HM	—
Art. No. 2304.16 REG HM	—
Art. No. 2308.16 REG HM	—
Art. No. 2304.16 REG C HM	50 / 60 Hz
Art. No. 2308.16 REG C HM	50 / 60 Hz
Measuring range	
Art. No. 2302.16 REG HM	—
Art. No. 2304.16 REG HM	—
Art. No. 2308.16 REG HM	—
Art. No. 2304.16 REG C HM	0.25 ... 16 A
Art. No. 2308.16 REG C HM	0.25 ... 16 A
Accuracy (≤ 1 A)	
Art. No. 2302.16 REG HM	—
Art. No. 2304.16 REG HM	—
Art. No. 2308.16 REG HM	—
Art. No. 2304.16 REG C HM	± 100 mA
Art. No. 2308.16 REG C HM	± 100 mA
Accuracy (> 1 A)	
Art. No. 2302.16 REG HM	—
Art. No. 2304.16 REG HM	—
Art. No. 2308.16 REG HM	—
Art. No. 2304.16 REG C HM	± 8 % of curr. val.
Art. No. 2308.16 REG C HM	± 8 % of curr. val.
Switching outputs	
Contact type	µ contact
Switching voltage	AC 250 / 400 V
Switching current 230 V AC 1	16 A
Switching current 230 V AC 3	10 A
Switching current 400 V AC 1	10 A
Switching current 400 V AC 3	6 A
Fluorescent lamps	
Art. No. 2302.16 REG HM	10 AX
Art. No. 2304.16 REG HM	10 AX
Art. No. 2308.16 REG HM	10 AX
Art. No. 2304.16 REG C HM	16 AX
Art. No. 2308.16 REG C HM	16 AX
Ohmic load	3680 W
Capacitive load	
Art. No. 2302.16 REG HM	10 A / 140 µF
Art. No. 2304.16 REG HM	10 A / 140 µF
Art. No. 2308.16 REG HM	10 A / 140 µF
Art. No. 2304.16 REG C HM	16 A / 200 µF
Art. No. 2308.16 REG C HM	16 A / 200 µF
Switching voltage DC	DC 12 ... 24 V

Switching current DC	16 A
Minimum switching current	100 mA
Switch-on current 150 µs	
Art. No. 2302.16 REG HM	400 A
Art. No. 2304.16 REG HM	400 A
Art. No. 2308.16 REG HM	400 A
Art. No. 2304.16 REG C HM	600 A
Art. No. 2308.16 REG C HM	600 A
Switch-on current 600 µs	
Art. No. 2302.16 REG HM	200 A
Art. No. 2304.16 REG HM	200 A
Art. No. 2308.16 REG HM	200 A
Art. No. 2304.16 REG C HM	300 A
Art. No. 2308.16 REG C HM	300 A
Lamp loads	
Incandescent lamps	
Art. No. 2302.16 REG HM	2500 W
Art. No. 2304.16 REG HM	2500 W
Art. No. 2308.16 REG HM	2500 W
Art. No. 2304.16 REG C HM	3680 W
Art. No. 2308.16 REG C HM	3680 W
HV halogen lamps	
Art. No. 2302.16 REG HM	2500 W
Art. No. 2304.16 REG HM	2500 W
Art. No. 2308.16 REG HM	2500 W
Art. No. 2304.16 REG C HM	3680 W
Art. No. 2308.16 REG C HM	3680 W
LV halogen lamps with inductive transformer	
Art. No. 2302.16 REG HM	1200 VA
Art. No. 2304.16 REG HM	1200 VA
Art. No. 2308.16 REG HM	1200 VA
Art. No. 2304.16 REG C HM	2000 VA
Art. No. 2308.16 REG C HM	2000 VA
LV halogen lamps with Tronic transformer	
Art. No. 2302.16 REG HM	1500 W
Art. No. 2304.16 REG HM	1500 W
Art. No. 2308.16 REG HM	1500 W
Art. No. 2304.16 REG C HM	2500 W
Art. No. 2308.16 REG C HM	2500 W
Fluorescent lamps T5/T8	
uncompensated	
Art. No. 2302.16 REG HM	2500 W
Art. No. 2304.16 REG HM	2500 W
Art. No. 2308.16 REG HM	2500 W
Art. No. 2304.16 REG C HM	3680 W
Art. No. 2308.16 REG C HM	3680 W
parallel compensated	
Art. No. 2302.16 REG HM	1300 W / 140 µF
Art. No. 2304.16 REG HM	1300 W / 140 µF
Art. No. 2308.16 REG HM	1300 W / 140 µF
Art. No. 2304.16 REG C HM	2500 W / 200 µF
Art. No. 2308.16 REG C HM	2500 W / 200 µF
Duo circuit	
Art. No. 2302.16 REG HM	2300 W / 140 µF
Art. No. 2304.16 REG HM	2300 W / 140 µF
Art. No. 2308.16 REG HM	2300 W / 140 µF
Art. No. 2304.16 REG C HM	3680 W / 200 µF
Art. No. 2308.16 REG C HM	3680 W / 200 µF
Compact fluorescent lamps	
uncompensated	
Art. No. 2302.16 REG HM	2500 W
Art. No. 2304.16 REG HM	2500 W
Art. No. 2308.16 REG HM	2500 W

Art. No. 2304.16 REG C HM	3680 W
Art. No. 2308.16 REG C HM	3680 W
parallel compensated	
Art. No. 2302.16 REG HM	1300 W / 140 µF
Art. No. 2304.16 REG HM	1300 W / 140 µF
Art. No. 2308.16 REG HM	1300 W / 140 µF
Art. No. 2304.16 REG C HM	2500 W / 200 µF
Art. No. 2308.16 REG C HM	2500 W / 200 µF
Mercury vapour lamps	
uncompensated	
Art. No. 2302.16 REG HM	2000 W
Art. No. 2304.16 REG HM	2000 W
Art. No. 2308.16 REG HM	2000 W
Art. No. 2304.16 REG C HM	3680 W
Art. No. 2308.16 REG C HM	3680 W
parallel compensated	
Art. No. 2302.16 REG HM	2000 W / 140 µF
Art. No. 2304.16 REG HM	2000 W / 140 µF
Art. No. 2308.16 REG HM	2000 W / 140 µF
Art. No. 2304.16 REG C HM	3680 W / 200 µF
Art. No. 2308.16 REG C HM	3680 W / 200 µF
Housing	
Fitting width	
Art. No. 2302.16 REG HM	72 mm / 4 modules
Art. No. 2304.16 REG HM	72 mm / 4 modules
Art. No. 2308.16 REG HM	144 mm / 8 modules
Art. No. 2304.16 REG C HM	72 mm / 4 modules
Art. No. 2308.16 REG C HM	144 mm / 8 modules
Weight	
Art. No. 2302.16 REG HM	approx. 170 g
Art. No. 2304.16 REG HM	approx. 220 g
Art. No. 2308.16 REG HM	approx. 400 g
Art. No. 2304.16 REG C HM	approx. 270 g
Art. No. 2308.16 REG C HM	approx. 500 g
Connection of outputs	
Connection mode	Screw terminal
single stranded	0.5 ... 4 mm²
finely stranded without conductor sleeve	0.5 ... 4 mm²
finely stranded with conductor sleeve	0.5 ... 2.5 mm²

6.2 Troubleshooting

Operation via bus is not possible

Cause: No bus voltage.

Switch on bus voltage, check installation.

Cause: Application software has been stopped, programming LED is flashing.

Disconnect device from bus, wait 5 seconds and reconnect to bus.

Cause: Application software missing or faulty.

Check programming and correct.

6.3 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

Please send the device with a description of the defect to our central customer service office.

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