# GIRA

**4-channel switching actuator 16 A** Order no.: 1004 00

**8-channel switching actuator 16 A** Order no.: 1006 00

**4-channel switching actuator 16 A** Order no.: 1045 00

**C-load with current detection**

**8-channel switching actuator 16 A** Order no.: 1046 00

**C-load with current detection**

## System information

This device is a product of the Instabus KNX/EIB-system and complies with KNX directives. Technical knowledge obtained in Instabus KNX training courses is a prerequisite to proper understanding.

The functionality of this device depends on 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 unit is effected by means of KNX-certified software. The full functionality with KNX commissioning software from version ETS3.0d. onwards.

The product database, technical descriptions and conversion programs and other utilities are available in the Internet at www.gira.de.

⚠ **Safety instructions**

**Electrical equipment must be installed and fitted by qualified electricians only. Observe the current accident prevention regulations.**
**Failure to observe the instructions may cause damage to the device and result in fire or other hazards.**
**The device is not suited for safe disconnection of the mains supply.**
**Do not connect mains voltage consumers together with SELV/PELV consumers to the same switching actuator.**
**Do not connect three-phase AC motors to the actuator.**
**The current detection and load monitoring functions must not be used for safety-related applications, e.g. overload detection.**
**These operating instructions are part of the product and must be left with the final customer.**

## Function

### Designated use

- Switching of electrical consumers AC 230 V or 24V AC/DC with potential-free contacts
- Mounting on DIN rail in fixed installations (power distributions or small boxes).

4-channel and 8-channel switching actuators for C-loads

- Switching of capacitive loads with resulting higher inrush currents

### Product features

- Bus-independent manual switching of relays
- Operation as n.c. or n.o. contacts
- Logic operation and forced-control functions
- Switching checkback mode
- Switching status indicator and manual switching
- Central switching function with group checkback
- Inhibit function for each channel
- Time functions: ON-delay, OFF-delay, staircase lighting timer with early-warning function
- Incorporation in light-scenes
- Operating hours counter, bus-configurable
- Input monitoring for cyclical updates with safety circuit
- No additional power supply

Actuator relay outputs switching with short time delay after actuation via central telegram.

### Additional properties of the C-load switching actuators

- Current detection: measurement of load current for each channel
- Threshold values for load monitoring, e.g. load failure message

## Operation

### Manual operation

The switching state of the relays is indicated by the switching position indicators (1) on the front panel. The indicators can be used at the same time for manual switching of the relay outputs.

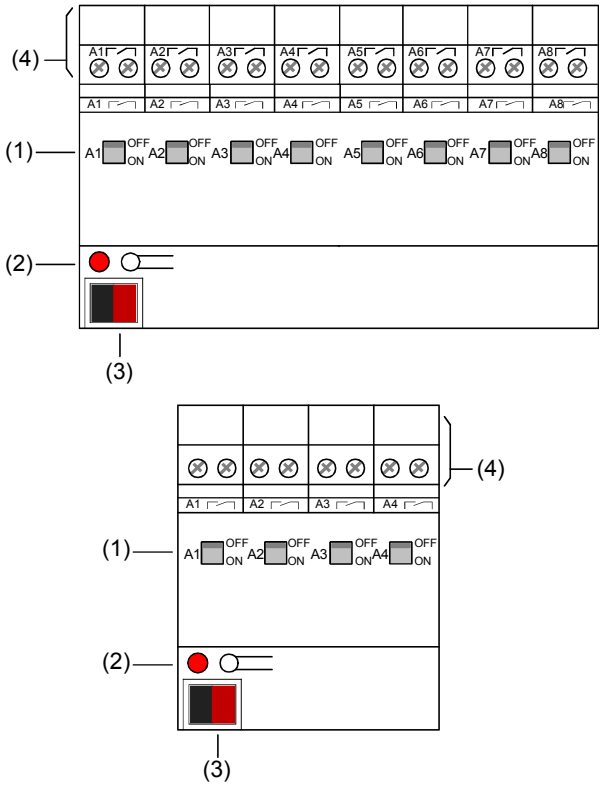
- Slide switching position indicator (1) into the **ON** position.
  The relay contact is closed and the consumer is activated.
- Slide switching position indicator (1) into the **OFF** position.
  The relay contact is open and the consumer is deactivated.

The switching position indicator shows directly the state of the relays independently of the mode of operation of the output (n.o. or n.c. contact).

Manual relay switching independent of the bus. No checkback via the bus for manual switching.

Software-disabled outputs can be switched manually.

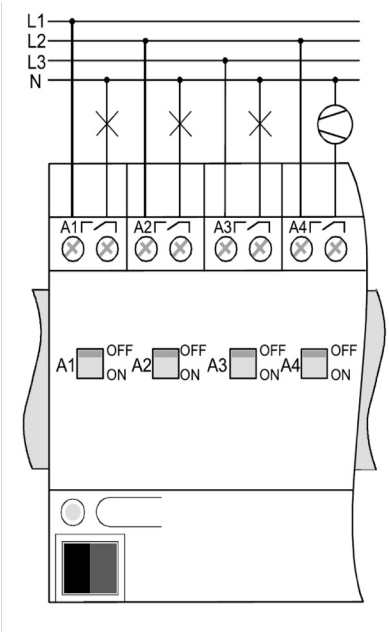
**1**




(1) switching status indicators / manual switching
(2) programming button and LED
(3) Instabus KNX/EIB terminal
(4) relay output terminals

## Connection

2




**Information for qualified electricians**

**DANGER**

**Electric shock in case of accidental contact with live parts. Electric shocks may be fatal.**

**Before working on the device, disconnect the mains voltage and cover up live parts in the surroundings.**

## Installation and electrical connection

### Installation of the device

Observe the admissible temperature range. Ensure sufficient cooling.

- Snap the device onto a DIN EN 60715 mounting rail. The connecting terminals must be at the top.

### Connection of the device

Observe the admissible loads.

Do not connect three-phase AC motors to the actuator.

On delivery, the switching state is undefined.

- Set the relays to the **OFF** position.
- Connect as shown in the example (Fig. 2).
- Connect the bus with the bus terminal (Fig. 1, 3).

The connection to different phase conductors is possible.

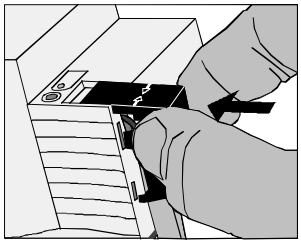
For current detection, the device is equipped with contactless current sensors. Magnetic fields in the immediate vicinity can result in false current measurement results. If possible, lay feed and return line closely side by side. Do not install devices producing magnetic fields in the immediate vicinity of the actuator, e. g. doorbell transformer, power contactor, etc.

**Sliding on the protective cap**

To protect the bus lines against dangerous voltages at the connecting terminal, slide on the protective cap.

- Lead out the bus line at the rear of the device.
- Slide the cap over the bus terminal (Fig. 3 A) until it is heard to engage.

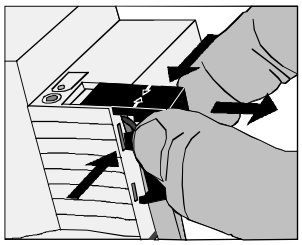
. **3 A**



**Removing the cap**

- Press the sides of cap and withdraw (Fig. 3 B).

**3 B**



## Commissioning

- Switch on the bus voltage
- Assign a physical address and download the application software (with commissioning software).
- Switch on the mains voltage at the outputs.

## Technical data

**General**

| | |
|---|---|
| Medium: | TP1 |
| Mode of commissioning: | S-Mode |
| Instabus KNX/EIB supply: | 21...32 V DC |
| Instabus KNX/EIB connection: | Connecting terminals |
| Connection of outputs: | Screw terminals |
| solid wire: | 0.5 ... 4 mm² |
| stranded wire without ferrule: | 0.5 ... 4 mm² |
| stranded wire with ferrule: | 0.5 ... 2.5 mm² |
| Screw terminal tightening torque: | max. 0.8 Nm |
| Output contact type: | potential-free n.o. contact (µ-contact) |
| Ambient temperature: | -5 °C...+45 °C |
| Storage temperature: | -25 °C...+70 °C |
| Total dissipated power | |
| 4-channel switching actuators: | max. 4 W |
| 8-channel switching actuators: | max. 8 W |
| Mounting width | |
| 4-channel switching actuators: | 72 mm (4 modules) |
| 8-channel switching actuators: | 144 mm (8 modules) |

**4-channel and 8-channel**

| | |
|---|---|
| KNX/EIB power consumption: | typically 150 mW |
| Weight: | |
| 4-channel switching actuator: | ca. 220 g |
| 8-channel switching actuator: | ca. 400 g |

**4-channel and 8-channel C-load**

KNX/EIB power consumption: typically 240 mW

Current detection (sinus)

Frequency: 50/60 Hz

Detection range: 0.25...16 A sinus

Detection accuracy: < 1 A: ±100 mA
> 1 A: ±8% of actual value

Weight
4-channel switching actuator: C-load ca. 270 g
8-channel switching actuator: C-load ca. 500 g

**Switching capacity**

| | **4-ch. and 8-ch.** | **4-ch. and 8-ch. C-load** |
|---|---|---|
| Switching voltage | 230 V AC<br>400 V AC | 230 V AC<br>400 V AC |
| Switching capacity 230 V AC | 16 A AC1<br>10 A AC3 | 16 A AC1<br>10 A AC3 |
| Fluorescent lamps load | 10 AX | 16 AX |
| Switching capacity 400 V AC | 10 A AC1<br>6 A AC3 | 10 A AC1<br>6 A AC3 |
| Switching capacity DC (ohmic) | 16 A 24 V | 16 A 24 V |
| Min. switching capacity | 100 mA, 12/24 V | 100 mA, 12/24 V |
| Max. switch-on current | 400 A, 150 µs<br>200 A, 600 µs | 600 A, 150 µs<br>300 A, 600 µs |
| Resistive load | 3600 W | 3680 W |
| Capacitive load | 10 A, max. 140 µF | 16 A, max. 200 µF |
| Lamp loads<br>Incandescent lamps<br>230-V halogen lamps | <br>2500 W<br>2500 W | <br>3680 W<br>3680 W |
| LV halogen lamps<br>with conv. transformer<br>with Gira Tronic transformer | <br>1200 VA<br>1500 VA | <br>2000 VA<br>2500 VA |
| Fluorescent lamps T5/T8<br>non-compensated<br>parallel compensated<br>Lead-lag circuit: | <br>2500 W<br>1300 W, 140 µF<br>2300 W, 140 µF | <br>3680 W<br>2500 W, 200 µF<br>3680 W, 200 µF |
| Compact fluoresecent lamps<br>non-compensated<br>parallel compensated | <br>2500 W<br>1300 W, 140 µF | <br>3680 W<br>2500 W, 200 µF |
| Mercury vapour lamps<br>non-compensated<br>parallel compensated | <br>2000 W<br>2000 W, 140 µF | <br>3680 W<br>3680 W, 200 µF |
| Electronic ballasts | list of types see product documentation | |

## Help in case of trouble

**Operation via the bus impossible**

Cause 1: No bus voltage
Switch on the bus voltage; check installation.

Cause 2: Application software halted, programming LED flashing
Disconnect the device from the bus, reconnect after 5 seconds.

Cause 3: No or faulty application software.
Have the programming checked and rectified.

## Acceptance of guarantee

We accept the guarantee in accordance with the corresponding legal provisions.

**Please return the unit postage paid to our central service department giving a brief description of the fault:**

Gira
Giersiepen GmbH & Co. KG
**Service Center**
Dahlienstrasse 12
D-42477 Radevormwald

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