Room actuator

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 consumers for SELV / PELV voltages.

Connect only electro-thermal adjustment drives to the heating outputs. Do not connect inductive or capacitive loads.

Do not operate electro-thermal adjustment drives with DC voltage.

Do not connect three-phase AC motors.

These operating instructions are part of the product and must be left with the final customer.

Device layout

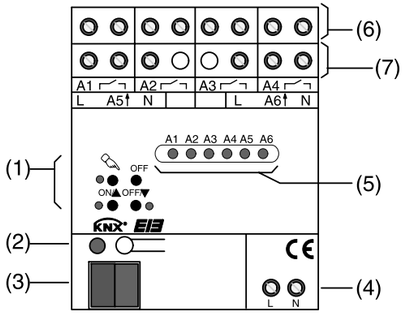

Fig.1: Device layout of room actuator 230 V

(1) keypad for manual control
(2) programming button and LED
(3) KNX connection
(4) mains supply connection
(5) output status LEDs
(6) connecting terminals for consumers / blinds/shutters
(7) connecting terminals for 230 V adjustment drives

Function

System information

This device is a product of the KNX system and complies with KNX directives. Detailed technical knowledge obtained in 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 is available with KNX commissioning software from version ETS3.0d onwards.

The product database, technical descriptions, conversion programs and other utilities are available in their latest version on our Internet page.

Designated use

- Switching of electrical consumers AC 230 V with potential-free contacts
- Switching of electrically operated blinds, shutters, awnings and similar curtains
- Heating outputs: electronic outputs for switching electro-thermal adjustment drives
- Installation on DIN rails in small distribution boards

Product features

- Manual output control, provisional operation
- Feedback in manual control mode and in bus operation
- Scene function
- Disabling of individual outputs by hand or via the bus

Switching function

- Make-contact and break-contact operation
- Logic operation and forcing function
- Feedback function
- Central switching function with group feedback
- Time functions: ON-delay, OFF-delay, staircase lighting timer with early-warning function

Blind/shutter function

- Suitable for AC motors 230 V
- Direct control of blind/shutter position
- Direct control of slat position
- Checkback of running state, blind/shutter position and slat position
- Forced-control position from primary control
- Safety function: 3 independent wind alarms, rain alarm, frost alarm
- Sun protection function

Control of adjustment drives

- Switching or PWM operation
- Control of adjustment drives with working characteristics „normally open" or „normally closed"
- Overload and short-circuit protection
- Emergency operation in the event of bus failure for summer and winter
- Protection against jamming valves
- Forced-control position
- Cyclical monitoring of input signals parametrizable

ⓘ PWM operation: Electro-thermal adjustment drives only have an „open" and a „closed" position. In PWM operation, these devices have quasi-continuous characteristics due to fast switching within the cycle time.

Operation

Controls

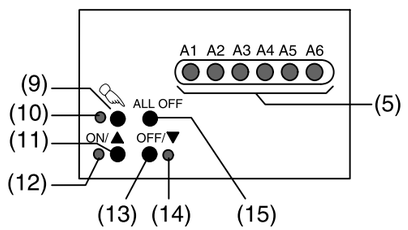

Fig.2: Controls – layout

(5) output status LEDs
(9) key : Manual control
(10) LED : permanent manual control indicator
(11) key **ON**/▲: switching on or opening a valve or raising a curtain / stop
(12) LED **ON**/▲: lit up: switched on or blind/shutter moving upwards, manual control mode
(13) key **OFF**/▼: switching off or closing a valve or lowering the blind/shutter / stop
(14) LED **OFF**/▼: lit up: switched off or blind/shutter moving down, manual control mode
(15) **ALL OFF** key: all outputs off, closing all valves and stopping all drives

Status indication

The status LEDs **A1...A6** (Fig. 2, 5) indicate the output states.

- Off: output is off
- On: output is on
- Flashing slowly: output in manual control mode
- Flashing fast: output disabled by permanent manual control mode

Heating outputs **A5** and **A6**: The LED does not indicate the characteristics of the adjustment drive, but the state of the output. **ON** = supplying current; **OFF** = not supplying current.

In the PWM mode of operation, the LED indication cannot be interpreted as representing the state of the adjustment drives connected and of the valves controlled.

Modes of operation

- Bus operation: operation via touch sensors or other bus devices
- Temporary manual control: manual operation locally with keypad, automatic return to bus operation
- Permanent manual control mode: only manual operation locally on device

ⓘ Bus operation in manual control mode disabled.
ⓘ Manual operation in the event of bus failure enabled.
ⓘ After failure and return of bus voltage, the device switches over to bus operation.
ⓘ After failure and return of mains voltage, the device switches over to bus operation.
ⓘ Manual control mode can be disabled in operation via bus telegram.

Blind/shutter control priorities

- Highest priority: manual control
- 2nd priority: forced-control position
- 3rd priority: safety function
- 4th priority: sun protection
- Lowest priority: bus operation: raising / lowering, slat adjustment, scenes, positioning

Activating the temporary manual control mode

Keypad operation must have been programmed beforehand and not be disabled.

- Press the key briefly, < 1 s.
  LED **A1** flashing, LED remains off.

ⓘ After 5 s without key-press, the actuator returns automatically to the bus mode.

Deactivating the temporary manual control mode

The device must be in the temporary manual control mode.

- No key-press for 5 s.
  - or -
- Press the key briefly < 1 s several times until the desired output is selected.
  LEDs **A1...A6** are no longer flashing, but indicating the output status.
  Switching outputs: Depending on programming, the output relays switch over to the position active at the time of deactivation of the manual control mode, e.g. to forcing and logic operation.
  Shutter outputs: Depending on programming, the blinds/shutters move to the position active at the time of deactivation of the manual control mode, e.g. forced-control position, safety or sun protection position.
  Heating outputs: Depending on programming, the outputs switch over to the position active at the time of deactivation of the manual control mode, e.g. to forcing and logic operation.

Activating the permanent manual control mode

Keypad operation must have been programmed beforehand and not be disabled.

- Press the key for at least 5 s.
  LED is on, LEDs **A1** is flashing, the permanent manual control mode is activated.

Deactivating the permanent manual control mode

The device is in the permanent manual control mode.

- Press the key for at least 5 s.
  The LED is off, bus operation is activated.
  Switching outputs: Depending on programming, the output relays switch over to the position active at the time of deactivation of the manual control mode, e.g. to forcing or logic operation.
  Shutter outputs: Depending on programming, the blinds/shutters move to the position active at the time of deactivation of the manual control mode, e.g. forced-control, safety or sun protection position.
  Heating outputs: Depending on programming, the outputs switch over to the position active at the time of deactivation of the manual control mode, e.g. to forcing or logic operation.

Operating the outputs

The device must in the permanent or temporary manual control mode.

- Press the key briefly < 1 s several times until the desired output is selected.
  The LED of the selected output **A1...A6** flashes.
  The **ON**/▲ and the **OFF**/▼ LEDs indicate the status.
- Operate the output with the **ON**/▲ or **OFF**/▼ key.
  Switching outputs: switching on or off.
  Shutter outputs:
  Brief press: blind/shutter stop
  Long press: raising/lowering the blind/shutter
  Heating outputs: opening or closing the valve
  The selected output executes the respective commands.
  The **ON**/▲ and the **OFF**/▼ LEDs indicate the status.

ⓘ Heating outputs with PWM: After switching on with **ON**/▲ , the output is regulated to the programmed fixed value. The LEDs only indicate the state of the output, but not the state of the heating function.
ⓘ Temporary manual control: After all outputs have been selected one after another, the device quits the manual control mode with the next brief press.

Switching off all outputs

The device is in the permanent manual control mode.

- Press the **ALL OFF** key.
  All outputs will be switched off. All blinds/shutters will be stopped. All heating valves will be closed.

Disabling individual outputs

The device is in the permanent manual control mode.

- Press the key briefly < 1 s several times until the desired output is selected.
  The LED of the selected output **A1...A6** flashes.
- Press the keys **ON**/▲ and **OFF**/▼ simultaneously for at least 5 s.
  The selected output is disabled.
  All status LEDs of the selected output **A1...A6** are flashing fast.
- Activate the bus mode (deactivate the permanent manual control mode).

ⓘ A disabled output can be operated in the manual control mode.
ⓘ If a disabled output is selected in the manual control mode, the LEDs are flashing twice briefly at intervals.

Re-enabling the outputs

The device must in the permanent manual control mode.

- Press the key briefly < 1 s several times until the desired output is selected.
  The status LEDs of the selected outputs **A1...A6** flashes twice briefly at intervals.
- Press the keys **ON**/▲ and **OFF**/▼ simultaneously for at least 5 s.
  The selected output **A1...A6** is enabled.
  The LED of the selected output **A1...A6** is flashing slowly.
- Activate the bus mode (deactivate the permanent manual control mode).

Information for qualified electricians

DANGER!

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

Before working on the device, cut out the mains supply and cover up live parts in the surroundings.

Fitting and electrical connection

Installing the device

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

ⓘ The device warms up in operation. Observe the max. operating temperature. Ensure sufficient cooling.

Connecting the device

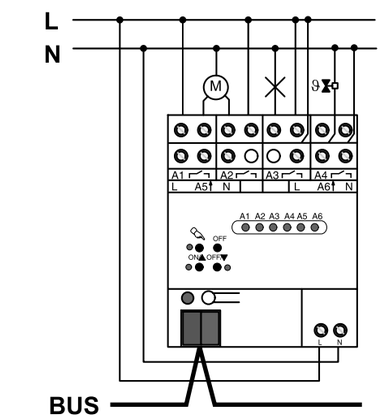

Fig.3: Connection

- Connect the bus line to the bus terminal.
- Connect the mains voltage supply.
- Connect the loads as described in the following chapters.

ⓘ Delivery state: provisional operation possible, output control via keypad enabled, All outputs are configured as shutter outputs.

Connecting switched loads

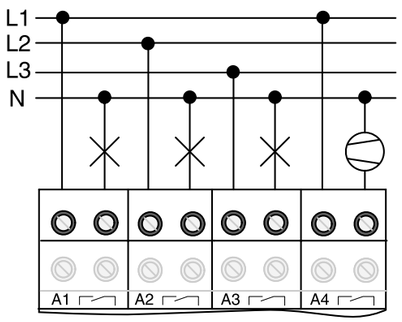

Fig. 4: Connection of switched loads

The output must be parameterized as switching output.

- Connect the switched loads (Fig. 4). Do not exceed the permissible load ratings (Technical data).

GIRA
instabus® KNX EIB

Room actuator

Order no. 2162 00

Operating instructions

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Giersiepen GmbH & Co. KG
Postfach 1220
42461 Radevormwald
Telefon: +49 2195 / 602-0
Telefax: +49 2195 / 602-339
Internet: www.gira.de
E-mail: info@gira.de

325 654 02_12 04.08

Connecting blind/shutter drives

For blind/shutter operation, two adjacent relay outputs are used as a blind/shutter output. The left relay output **A1**, **A3** is intended for the upward direction and the right relay output **A2**, **A4** for the downward direction.

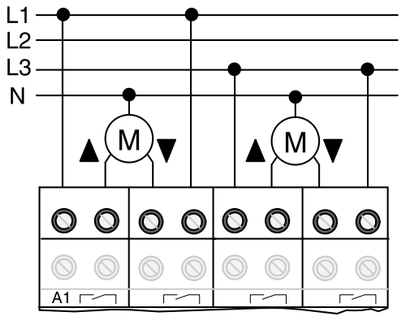

Fig. 5: Connection of blind/shutter motors

Observe the permissible load ratings (Technical data). The output must have been parameterized as switching output.

CAUTION

Risk of irreparable damage if several drives are connected in parallel to one output.

Limit switch contacts can weld together and drives, blinds/shutters and the shutter actuator can be irreparably damaged.

Use an isolating relay.

- Connect the drives (Fig. 5).

Connecting 230 V adjustment drives

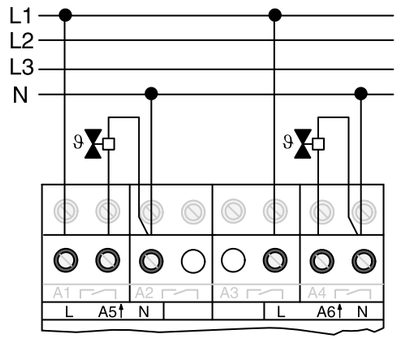

Fig. 6: Connection of electro-thermal 230 V adjustment drives

- Connect the adjustment drives (Fig. 6). Connect 4 adjustment drives maximum to one output.

i Connect only electro-thermal adjustment drives.

i In the case of electro-thermal adjustment drives, attention must be paid to the working characteristics **normally open** or **normally closed** (see project design data).

Attaching the bus terminal cap

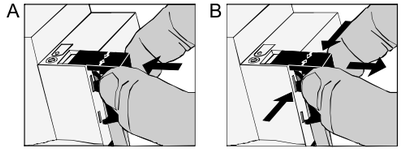

Fig. 7: Protective cap

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

- Lead bus lines towards the rear of the device.
- Snap the cap onto the bus terminal (Fig. 7, A).

Removing the bus terminal cap

- Press the sides and pull out the cap (Fig. 7, B).

Start-up

Measuring the blind/shutter and slat running times

The blind/shutter running time is important for positioning and scene moves. With Venetian blinds, the slat adjusting time is - for technical reasons - part of the overall running time of blinds/shutters. The opening angle of the slats is therefore defined as the running time required between the ‚open' and ‚closed' positions.

The upward move is generally longer than the downward move and is accounted for as running time prolongation in percent.

- Measure the UP and DOWN running times of the blind/shutter.
- Measure the slat adjusting time.
- Enter the measured values into the parameter settings list.

Loading the physical address and the application software

- 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.

Appendix

Technical data

KNX medium	TP1
Commissioning mode	S mode
KNX supply	21...32 V DC
KNX power consumption	max. 150 mW
Rated voltage	AC 230 / 240 V~
Mains frequency	50/60 Hz
Heat dissipation	max. 6 W
Ambient temperature	-5 °C...+45 °C
Storage temperature	-25 °C...+70 °C
Fitting width	72 mm (4 modules)
Weight	approx. 290 g
Connection	
KNX	connecting terminal
230 V supply and outputs	screw terminals
Connecting cross-section	
single-wire	0.5...4 mm²
stranded wire without ferrule	0.35...4 mm²
stranded wire with ferrule	0.14...2.5 mm²
Heating outputs	
Contact type	semiconductor, ε
Switching voltage	AC 250 V ~
Switching current	5 mA … 50 mA
Inrush current	max. 1.5 A, 2 s
Number of drives per output	max. 4
Relay outputs	
Contact type	potential-free n.o. contact (μ-contact)
Switching voltage	AC 250 V ~
Switching capacity AC1 (cos φ > 0.8)	16 A
Switching capacity AC3 (cos φ < 0.8)	6 A
Switching capacity AX (fluorescent lamps)	16 AX
Max. inrush current 200 µs	800 A
Max. inrush current 20 ms	165 A
Load rating of relay outputs	
Resistive load	3000 W
Capacitive load: (max. 140 µF)	16 A
Motors	1380 VA
Lamp loads	
Incandescent lamps:	3000 W
230 V halogen lamps	2500 W
TRONIC transformers	1500 W
Inductive transformers:	1200 VA
Fluorescent lamps	
non-compensated	1000 W
parallel compensated (max. 140 µF)	1160 W
ead-lag circuit (max. 140 µF)	2300 W
Compact fluoresecent lamps	
non-compensated	1000 W
parallel compensated (max. 140 µF)	1160 W
Mercury vapour lamps	
non-compensated	1000 W
parallel compensated (max. 140 µF)	1160 W
Electronic Ballasts	see product documentation

Technical specifications subject to change.

Help in case of trouble

Manual control with keypad not possible

Manual operation not parameterized.
Parameterize manual operation.

Manual operation disabled via the bus.
Enable the manual control mode.

No mains voltage.
Switch on the mains voltage.
Check the fuses.

Output control not possible

Output disabled.
Cancel the state of disabling.

None of the outputs operational

All outputs are disabled.
Cancel the state of disabling.

Permanent manual control mode active.
Deactivate the permanent manual control mode (switch this mode off).

Application software stopped, programming LED flashes.
Make a reset: Disconnect the device from the bus, reconnect after ca. 5 s.

Operation via the bus impossible

No bus voltage.
Switch on the bus voltage; have the installation checked by a qualified electrician.

Application software stopped, programming LED flashes.
Make a reset: Disconnect the device from the bus, reconnect after ca. 5 s.

Accessories

Isolating relay UP	Order no. 0382 00
Isolating relay AP	Order no. 0387 00
Isolating relay REG	Order no. 0861 00
Tubular motor 10 Nm	Order no. 0857 00
Tubular motor 25 Nm	Order no. 1149 00
Tubular motor 35 Nm	Order no. 0858 00
Tubular motor 50 Nm	Order no. 0859 00
Thermal adjustment drive 230 V	Order no. 1122 00

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 unit postage free with a description of the defect to our central customer service via your specialised dealer:

Gira
Giersiepen GmbH & Co. KG
Service Center
Dahlienstrasse 12
D-42477 Radevormwald
Federal Republic of Germany