4-channel blind/shutter actuator 230 V~

Order no.: 1039 00

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.
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.
For parallel connection of several drives to an output it is indispensable to observe the corresponding instructions of the manufacturers.
There is otherwise risk of irreparable damage to the drives.
Use only blinds/shutters with mechanical or electronic limit switches. Check the limit switches for correct adjustment.
Do not connect mains voltage consumers together with SELV/PELV consumers to the same shutter actuator.
These operating instructions are part of the product and must be left with the final customer.

Function

Designated use

- Switching of electrically operated blinds, shutters, awnings and similar devices for mains voltage 230 V AC or extra-low voltage 12...48 V DC
- Installation on DIN rail in small distribution boards

Product features

- Manual output control, provisional operation
- Suitable for AC motors 230 V and DC motors 12...48 V
- Automatic run time detection with 230 V AC drives
- Direct control of blind/shutter position
- Direct control of slat position
- Scene function
- Checkback of run status, blind/shutter position and slat position for bus and manual operation
- Forced top and bottom position from primary control
- Safety function: 3 independent wind alarms, rain alarm, frost alarm
- Sun protection function
- Integration into the temperature management of the building possible
- Disabling of individual outputs by hand or via the bus possible

State of delivery: output control via keypad enabled, provisional operation.

Device components

(1) buttons for manual control

(2) programming button and LED

(3) Instabus KNX/EIB bus connection

(4) mains supply connection

(5) output status LEDs

(6) shutter drive connection

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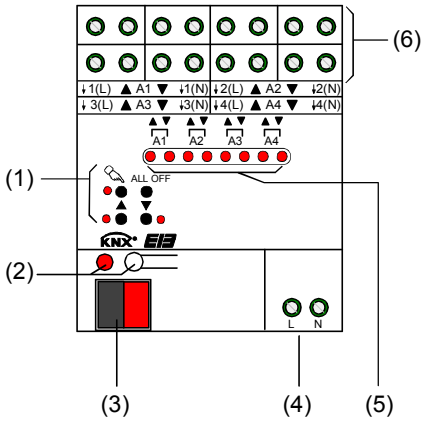

Operation

Controls:

(5) output status LEDs

(7) key ☞ manual operation

(8) LED ☞ on: permanent manual control mode

(9) key ▲ raise blind/shutter, stop

(10) LED ▲ on: blind/shutter moving upwards, manual control mode

(11) key ▼ lower blind/shutter, stop

(12) LED ▼ on: blind/shutter moving down, manual operation

(13) key **ALL OFF** stop all blinds/shutters

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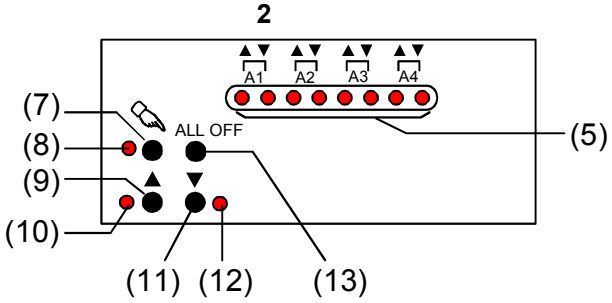

Status indication

The status LEDs **A1...A4** (Fig. 2, 5) indicate the output states.

- Off: output is off
- On: output is on, up or down
- Flashing slowly: output in manual control mode
- Flashing fast: output disabled in permanent manual control mode

Modes of operation

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

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

Priorities

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

Activating the temporary manual control mode

Keypad operation is programmed and not disabled.

- Press the key ☞ briefly, < 1 s.
  LEDs **A1** are 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 is in the temporary manual control mode.

- No key-press for 5 s.
  - or -
- Press the ☞ key briefly < 1 s several times until the actuator quits the temporary manual control mode.
  LEDs **A1...A4** are no longer flashing, but indicating the output status.
  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.

Activating the permanent manual control mode

Keypad operation is programmed and not disabled.

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

Operating the outputs

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

- Press the ☞ key briefly < 1 s several times until the desired output is selected.
  The LEDs of the selected output **A1...A4** are flashing.
  The LEDs ▲ and ▼ indicate the status.
- Controlling the output with the ▲ or ▼ key.
  Brief press: blind/shutter stop
  Long press: blind/shutter up/down
  The selected blind/shutter executes the respective commands.
  The LEDs ▲ and ▼ indicate the status.

> Temporary manual control mode: After all outputs have been selected one after another, the device quits the manual control mode with the next brief press.

Stopping all blinds/shutters

The device is in the permanent manual control mode.

- Press the **ALL OFF** key.

All outputs are shut off; all blinds/shutters are stopped.

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 status LEDs of the selected output **A1...A4** are flashing.
- Press the ▲ and the ▼ key simultaneously for at least 5 s.
  The selected output **A1...A4** is disabled.
  The status LEDs of the selected output **A1...A4** are flashing fast .
- Activate the bus mode (deactivate the permanent manual control mode).

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

Re-enabling the 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 status LEDs of the selected output **A1...A4** are flashing twice briefly at intervals
- Press the ▲ and the ▼ key simultaneously for at least 5 s.
  The selected output **A1...A4** is enabled.
  The LEDs of the selected output are 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 may be fatal.
Before working on the device, cut out the mains supply and cover up live parts in the surroundings.

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.

Fitting and electrical connection

Fitting the device

Observe the temperature range (Technical data).
Ensure sufficient cooling.

- Fit the device by snap-fastening on a mounting rail in acc. with DIN EN 60715. The connecting terminals must be at the top.

Connecting the device without running time detection

- Connect the bus line to the bus terminal (Fig. 3).
- Connect the mains voltage supply (Fig. 3).

Observe the admissible load rating (Technical data).

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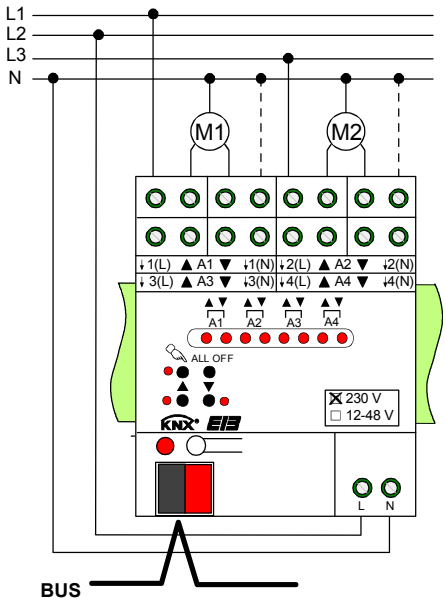

CAUTION

When the N conductor is connected and when the concerned output is energized without interruption for a prolonged time due to retriggering, the device may heat up excessively.
Risk of irreparable damage to the device.
Do not connect the N conductors.

Information for qualified electricians

The automatic running time detection cannot be used for 110 V AC drives, for DC drives, for drives with electronic limit switches and for drives connected to the outputs via isolating relays.

Only for 230 AC drives with mechanical limit switches.

- Connect the drives (Fig. 4).

The N conductor terminals are only used for running time detection purposes and are not at neutral potential.

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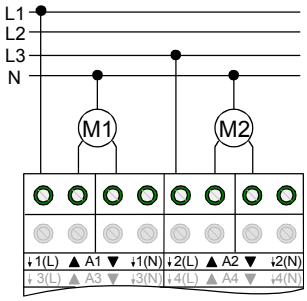

Connecting the device with automatic running time detection

If programmed and connected accordingly, the shutter actuator detects the running time of the individual blinds/shutters and stores them. The actuator measures the voltage against the connected N terminal at the drives and can thus recognize the limit positions.

In operation, the shutter actuator can adapt itself to changes in the running times of the blinds/shutters that are due, for instance, to ageing of the motors.

The running time detection function is activated in the software.

The blinds/shutters are not blocked.

- Connect the bus line to the bus terminal (Fig. 3).
- Connect the mains voltage supply (Fig. 3).

Connect only one drive to an output.

Observe the admissible load rating (Technical data).

- Connect the drive (Fig. 5).
- Connect the N conductor of the respective drive to the N conductor terminals (Fig. 5, 14). Observe the RCD wiring.

> The N conductor terminals of the individual outputs and of the mains connection are internally not connected.
> When an output is energized without interruption for a prolonged time due to retriggering, the device may heat up excessively.
> The automatic running time detection is configured during commissioning and the running time thus determined is permanently stored.

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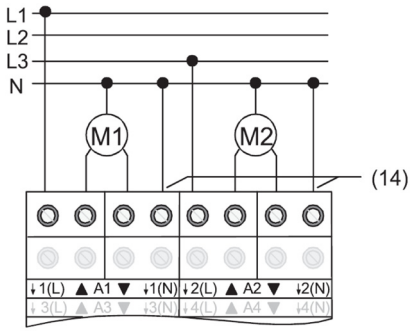

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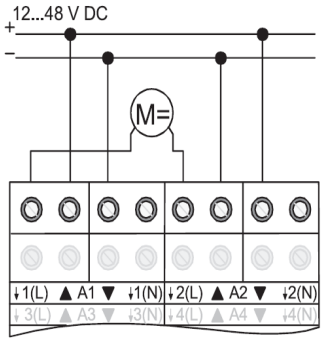

Connecting the device for 12...48 V DC drives

The shutter outputs **A1** and **A2** as well as **A3** and **A4** can be used in common for switching a DC drive.
The shutter actuator is programmed as DC device.

- Connect the bus line to the bus terminal (Fig. 3).
- Connect the mains voltage supply (Fig. 3).

> Connect only one drive to an output.

Observe the admissible load rating (Technical data).

- Connect the drives (Fig. 6)
- Mark 12-48 V on the label (Fig. 7).

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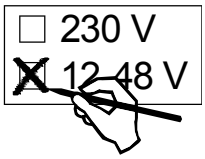


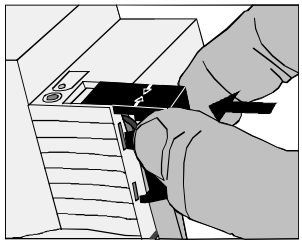
> In DC operation, the manual mode for the outputs **A2** and **A4** is not operational. The status LEDs indicate the relay states.

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. 8 A) until it is heard to engage.

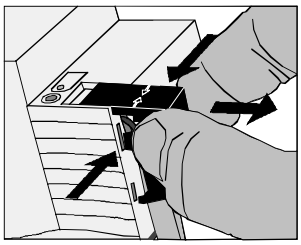
8A



Removing the cap

- Press the sides of cap and withdraw (Fig. 8 B)

. **8B**



Commisioning

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 between „open“ and „closed“.
- Enter the measured values into the parameter settings list.

> In case of automatic running time detection no measurement of the blind/shutter running times is required.
> Automatic measurement of the slat adjusting time is not possible.

Loading the address and the application software

- Switch on the bus voltage.
- Allocate the physical address and load the application software into the device.

Performing a reference run

The shutter actuator can move the blind/shutters into scene and other directly controlled positions only if the positions have been stored beforehand. For this purpose, every output must perform a reference run.

- Move the blinds/shutters to the upper limit-stop position.
- Wait until the output relay and the limit switch are off.

> The shutter actuator does not store the blind/shutter positions permanently. After each failure and return of the mains, a new reference run is performed.
> Without reference run, the shutter actuator sets for each output the internal flag **‚Invalid position‘** which can be read out.

Automatic running time detection: storing the running times

With the running time detection activated, the device can find positions and scenes only if the running times have been stored beforehand. The running times must be stored in undisturbed conditions, i.e. without any control operations being performed and in the absence of wind, snow and obstacles.

> For 230 V drives only.

The automatic running time detection function is activated in the software.

The N conductor terminals of the pertaining outputs are connected as shown (Fig. 5).

> Programming runs must be performed only in the manual control mode or with the commissioning software.

- Move the blinds/shutters into the upper limit-stop position (perform a reference run).

The upper limit-stop position is reached.

- Move the blinds/shutters in the manual control mode into the lower limit-stop position.
- Move the blinds/shutters in the manual control mode into the upper limit-stop position.
  The running times are now stored.

> The shutter actuator stores the blind/shutter positions permanently.
>
> Without stored running times, the shutter actuator sets for each output the internal flag ‚Invalid position‘ which can be read out.
>
> In operation, the shutter actuator can adapt itself to changes in the running times of the blinds/shutters that are due, for instance, to ageing of the drives. The slat running time is taken into account.
>
> The modified times are stored permanently only in the manual control mode.

Technical data

KNX medium:	TP1
Mode of commissioning:	S-Mode
Instabus KNX/EIB supply:	21...32 V DC
Instabus KNX/EIB power consumption:	max. 150 mW
Mains supply:	AC 230/240 V ±10%
Mains frequency:	50/60 Hz
Total dissipated power:	max. 4.5 W
Connection	
Instabus KNX/EIB:	connecting terminal
230 V supply and outputs:	screw terminals
Single-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
Switching voltage AC:	AC 230/240 V ±10%, 50/60 Hz
Switching capacity AC 230/240 V:	6 A AC1
Switching voltage DC:	12...48 V DC
Switched current DC:	12/24 V 6 A
Switched current DC:	48 V 3 A
max. blind/shutter running time:	20 min
Automatic running time detection:	max. 20 % of blind/shutter running time
Ambient temperature:	-5 °C ... +45 °C
Storage temperature	-25 °C ... +70 °C
Mounting width:	72 mm (4 modules)
Weight:	approx. 300 g

Help in case of trouble

Manual control with keypad not possible

Cause 1: Manual control mode not programmed.
Program the device for manual control.

Cause 2: Manual control mode disabled from bus.
Enable the manual control mode.

Output control not possible

Cause 1: Output disabled.
Re-enable the output.

Cause 2: Forced-control position, safety function or sun protection active for the output concerned.
No control operation possible for this output as long as primary functions are active.

No output operational

Cause 1: All outputs are disabled.
Re-enable the outputs.

Cause 2: Permanent manual control mode active.
Deactivate the permanent manual control mode (switch this mode off).

Cause 3: Forced-control position, safety function or sun protection active for all outputs.
No control operation possible as long as primary functions are active.

Cause 4: Application software stopped, programming LED flashing.
Make a reset: disconnect the device from the bus, reconnect after 5 seconds.

Cause 5: No or faulty application software.
Check programming and rectify.

Positioning and scene moves are not executed or executed only incorrectly

Cause 1: Sun protection, safety function, forced-control position or manual control mode active.
No positioning or scene moves possible as long as primary functions are active.

Cause 2: No running time stored.
Store the running times (automatic running time detection: store the running times).

> Without running times being stored, the shutter actuator raises or lowers the blinds/shutters for positioning or scene moves depending on whether the blinds/shutters are in the upper or lower half.

Cause 3: Automatic running time detection is activated and N conductor is not connected.
Correct the electrical connection.
- or
deactivate the automatic running time detection.

Cause 4: Automatic running time detection is activated, but the switching voltage is < 230 V or drives with electronic limit switches are being used.
Deactivate the automatic running time detection.
Correct the electrical connection and remove the N conductor.

Blind/shutter does not move to limit position, positioning or scene moves faulty

Cause: Blind/shutter running time adjustment incorrect.
Correct the blind/shutter running time.

Blind/shutter moves upward before a positioning scene moves

Cause: No position stored, e.g. because of mains failure.
Blind/shutter performs a reference run. Do not stop the moving blind/shutter.

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

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:

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