

Combination actuator blind and heating

Order No. : 2164 00

Blind actuator 1-gang flush-mounted

Order No. : 2165 00

Heating actuator 1-gang flush-mounted

Order No. : 2166 00

Operating instructions**1 Safety instructions**

Electrical devices may only be mounted and connected by electrically skilled persons.

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

The device is not suitable for disconnection from supply voltage.

The connected actuators are not electrically isolated from the mains – even when switched off.

Do not connect any external voltage to the inputs, since doing so may damage the device(s), and the SELV potential on the KNX bus line will no longer be available.

For parallel connection of several drives to an output it is essential to observe the corresponding instructions of the manufacturers, and to use a cut-off relay if necessary. There is otherwise risk of irreparable damage to the drives.

Use only shutter drives with mechanical or electronic limit switches. Check the limit switches for correct adjustment. Observe the specifications of the motor manufacturers.

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

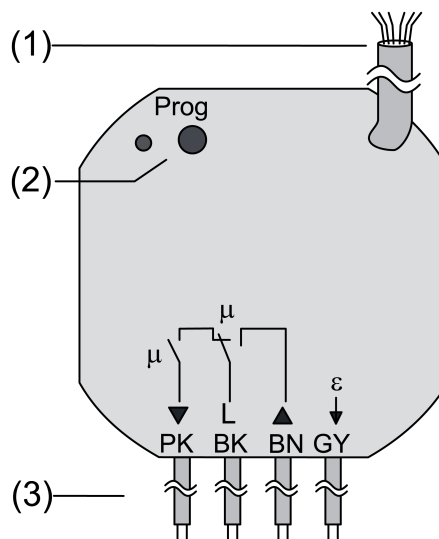
2 Device components

Figure 1: Window actuator

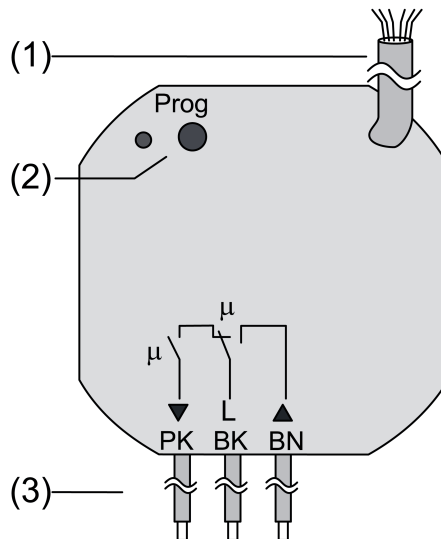


Figure 2: Venetian blind actuator

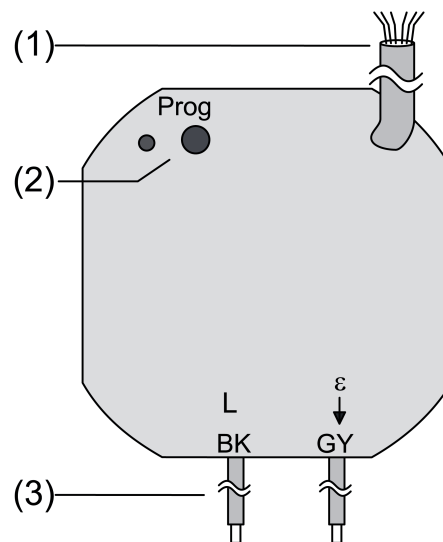


Figure 3: Heating actuator

- (1) Control cable
- (2) Programming button and LED
- (3) Connection of mains and power cables

Connection assignment, power cables

BK, black: connection L

BN, brown: connection of Venetian blind, up

PK, pink: connection of Venetian blind, down

GY, grey: actuator connection

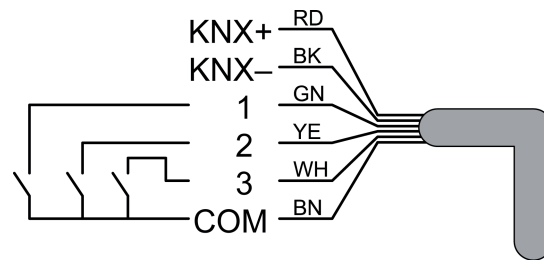


Figure 4

Connection assignment of control cable

RD, red: KNX+

BK, black: KNX–

GN, green: input 1

YE, yellow: input 2

WH, white: input 3

BN, brown: COM inputs 1...3

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 purpose

Window actuator (Figure 1):

- Switching of electrically-driven Venetian blinds, awnings and similar blinds for AC 230 V mains voltage.
- Switching of electrothermal actuators
- Installation in appliance box to DIN 49073
- Connection with enclosed terminals

Venetian blind actuator (Figure 2):

- Switching of electrically-driven Venetian blinds, awnings and similar blinds for AC 110...230 V mains voltage.
- Installation in appliance box to DIN 49073
- Connection with enclosed terminals

Heating actuator (Figure 3):

- Switching of electrothermal actuators
- Installation in appliance box to DIN 49073
- Connection with enclosed terminals

Product characteristics

Depending on the equipment:

- Control of Venetian blinds, awnings and similar blinds
- Control of electrothermal actuators
- Three binary inputs for potential-free contacts, usable as extension inputs for local operation
- Supply via bus, no additional power supply necessary

Blind function

- Blind position directly controllable
- Slat position directly controllable
- Feedback of movement status, blind position and slat position
- Forced position through higher-level controller
- Safety function: 3 independent wind alarms, rain alarm, frost alarm
- Sun protection function

Actuator function

- Switching operation or PWM operation
 - Actuators with characteristics opened or closed without power
 - Overload-protected, short circuit-protected
 - Protection against jamming valves
 - Forced position
 - Cyclical monitoring of the input signals configurable.
- i** PWM operation: electrothermal actuators only have the positions Open and Closed. In PWM operation, switch-on and switch-off during the drive's cycle time achieves an almost constant behaviour.

4 Information for qualified electricians**4.1 Fitting and electrical connection****DANGER!**

Electrical shock when live parts are touched.

Electrical shocks can be fatal.

Before working on the device, disconnect the power supply and cover up live parts in the working environment.

Connecting and mounting the device**DANGER!**

When connecting the bus/extensions and mains' voltage wires in a shared appliance box, the KNX bus cable may come into contact with the mains voltage.

This endangers the safety of the entire KNX installation. People at remote devices may also receive an electric shock.

Do not place bus/extensions and mains voltage terminals in a shared connection compartment. Use an appliance box with a fixed partition wall (Figure 5) or separate boxes.

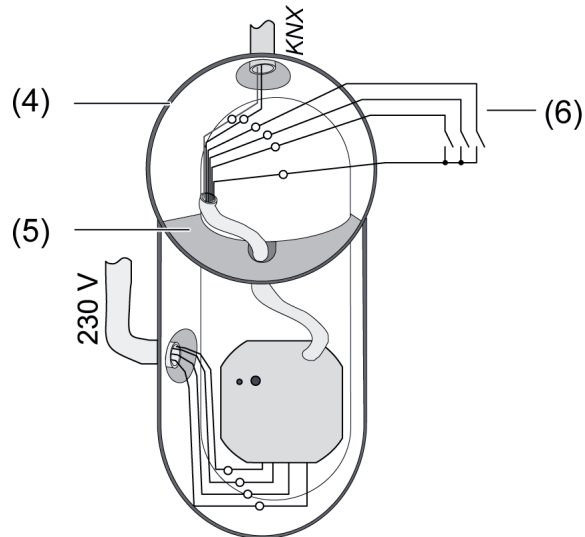


Figure 5

- (4) Appliance box
- (5) Partition
- (6) Potential-free contacts, e.g. for window contact or installation pushbuttons

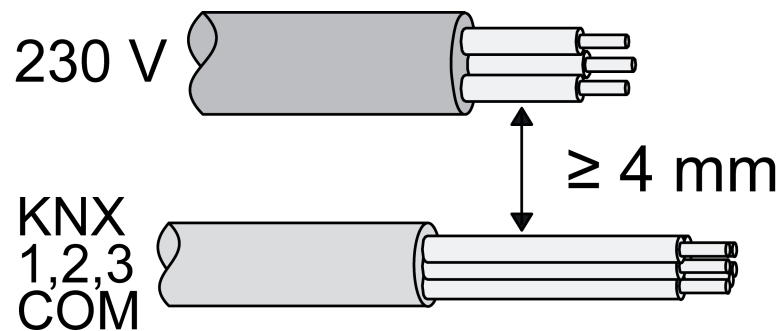


Figure 6

Minimum spacing between the mains voltage and bus/extension wires: 4 mm (Figure 6).

- Connect the load (Figure 7). Use the supplied sprung screwless terminals. Flexible cable ends must be tin-plated.
- Connect the device to KNX.
- If necessary, connect potential-free contacts (6) to inputs (Figure 4).
- Install the device in the appliance box.

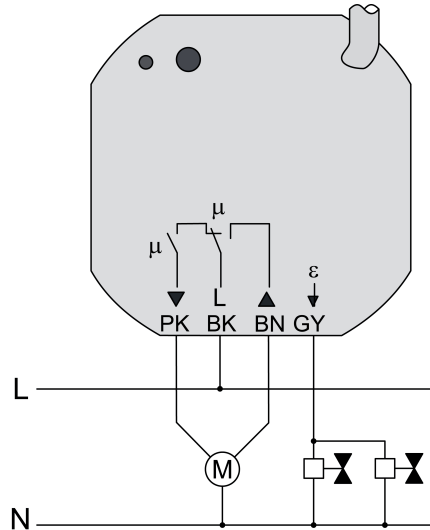


Figure 7

i In the as-delivered state, Inputs 1 and 2 operate the Venetian blind output. Input 3 has no function.

Function of Inputs 1 and 2 in the as-delivered state

Input	NO contact	Blind
1	Press briefly	Adjust slats Up / Stop
1	Press for a long time	Move up
2	Press briefly	Adjust slats Down / Stop
2	Press for a long time	Move down

4.2 Commissioning

Load the address and the application software

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

5 Appendix

5.1 Technical data

Combination actuator blind and heating, Order No. 2164 00

Supply	
Rated voltage	AC 230 / 240 V ~
Mains frequency	50 / 60 Hz
Switching voltage	AC 250 V ~
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Venetian blind output	
Contact type	μ
Switching current AC1	3 A
Minimum switching current AC	100 mA
Motors 230 V	600 VA
Heating output	

Output type	Semi-conductor (Triac), ε
Switching current	5 ... 25 mA
Switch-on current	max. 600 mA (2 sec)
Number of drives per output	max. 2
Control cable and inputs	
Control cable (preterminated)	YY6x0.6
Input type	Potential-free
Total length of extension unit cable	max. 5 m
Poll voltage, extension inputs	approx. 5 V
Dimensions Ø×H	53×28 mm
Connection mode	Terminal (enclosed)
single stranded	1.0 ... 2.5 mm ²
KNX	
KNX medium	TP
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	max. 240 mW
Connection mode KNX	Connection terminal on control cable

Blind actuator 1-gang flush-mounted, Order No. 2165 00

Supply	
Rated voltage	AC 110 ... 240 V ~
Mains frequency	50 / 60 Hz
Switching voltage	AC 250 V ~
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Venetian blind output	
Contact type	μ
Switching current AC1	3 A
Minimum switching current AC	100 mA
Motors 230 V	600 VA
Motors 110 V	300 VA
Heating output	
Control cable and inputs	
Control cable (preterminated)	YY6x0.6
Input type	Potential-free
Total length of extension unit cable	max. 5 m
Poll voltage, extension inputs	approx. 5 V
Dimensions Ø×H	53×28 mm
Connection mode	Terminal (enclosed)
single stranded	1.0 ... 2.5 mm ²
KNX	
KNX medium	TP
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	max. 240 mW
Connection mode KNX	Connection terminal on control cable

Heating actuator 1-gang flush-mounted, Order No. 2166 00

Supply	
Rated voltage	AC 230 / 240 V ~
Mains frequency	50 / 60 Hz
Switching voltage	AC 250 V ~
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Venetian blind output	
Heating output	

Output type	Semi-conductor (Triac), ε
Switching current	5 ... 25 mA
Switch-on current	max. 600 mA (2 sec)
Number of drives per output	max. 2
Control cable and inputs	
Control cable (preterminated)	YY6x0.6
Input type	Potential-free
Total length of extension unit cable	max. 5 m
Poll voltage, extension inputs	approx. 5 V
Dimensions Ø×H	53×28 mm
Connection mode	Terminal (enclosed)
single stranded	1.0 ... 2.5 mm ²
KNX	
KNX medium	TP
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	max. 240 mW
Connection mode KNX	Connection terminal on control cable

5.2 Warranty

The warranty follows about the specialty store in between the legal framework as provided for by law

Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

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