One

GIRA

Operating instructions

Switching actuator 2-gang / blind actuator, 1-gang 16 A with binary input, 3-gang
Order no. 5062 00

GIRA

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GIRA

1   Safety instructions

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

Serious injuries, fire or property damage possible. Please read and follow manual fully.

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

Danger of electric shock. Make sure during the installation that there is always sufficient insulation between the mains voltage and the bus. A minimum distance of at least 4 mm must be maintained between bus conductors and mains voltage cores.

Danger of electric shock on the installation. Do not connect any external voltage to the inputs. The device might be damaged, and the SELV potential on the bus line will no longer be available.

For parallel connection of several motors to an output it is essential to observe the corresponding instructions of the manufacturers, and to use a cut-off relay if necessary. The motors may be destroyed.

Use only Venetian blind motors with mechanical or electronic limit switches. Check the limit switches for correct adjustment. Observe the specifications of the motor manufacturers. Device can be damaged.

This manual is an integral part of the product, and must remain with the end customer.
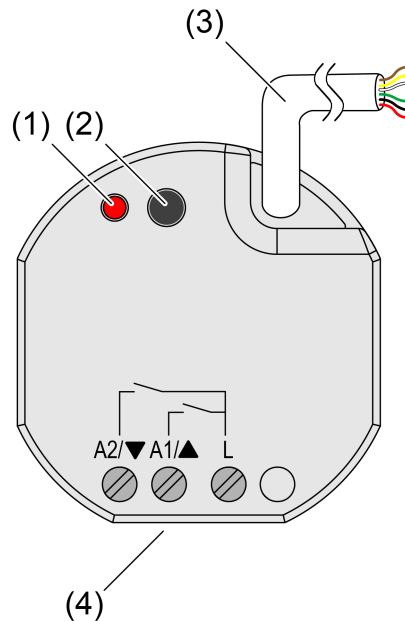
2 Device components

Image 1: Device components

(1)   Programming LED
(2)   Programming button
(3)   Control cable (bus connection and extension inputs)
(4)   Connection of load (relay outputs)
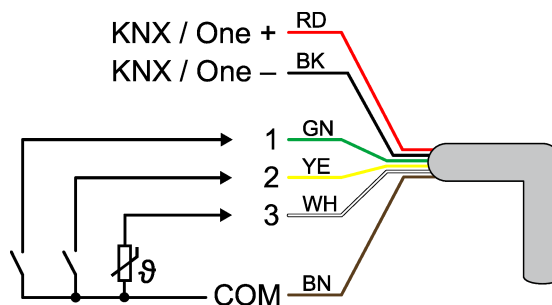
Image 2: Connection assignment of control cable (example)

red (RD)	KNX / One +
black (BK)	KNX / One -
green (GN)	Input 1 (push-button, switch, contact, condensation/leakage sensor)
yellow (YE)	Input 2 (push-button, switch, contact, condensation/leakage sensor)
white (WH)	Input 3 (push-button, switch, contact, condensation/leakage sensor, NTC temperature sensor)
brown (BN)	COM inputs 1...3

3 Function

System information

This device is a product for the Gira One Smart Home system. The Gira One system is commissioned easily and in a time-saving manner using the Gira Project Assistant.

The Gira One Smart Home system enables the control and automation of lighting, heating and shading, as well as connection to various third-party systems and much more. It can be operated via Gira One switches, by app from home or securely from a remote location. Electrically skilled persons can maintain the Gira One project remotely free of charge.

Data transmission between the Gira One devices is encrypted. This provides protection against third-party access and manipulation.

Commissioning is carried out with the free Gira Project Assistant (GPA), version 5 or higher. Free function and security updates are also transferred to the Gira One devices with the GPA.

The Gira One system is based on the globally proven KNX smart home standard.

Intended use

– Operation in Gira One system
– Switching electrical loads via relay contacts with common reference potential
– Switching of electrically-driven Venetian blinds, roller shutters, awnings and similar hangings
– Reading in switching states of installation switches or push-buttons and other potential-free contacts at inputs 1...3
– Signal evaluation of condensation and leakage sensors at inputs 1...3 (see accessory).
– Acquisition of temperature values via NTC temperature sensor at input 3 (see accessories)
– Mounting in appliance box with dimensions according to DIN 49073

Product characteristics

– Output can be operated via the Gira One system or extension inputs
– Three extension inputs for connecting potential-free contacts or dew/leakage sensors. NTC temperature sensor can be connected to input 3.
– Supply via the bus, no additional supply voltage necessary
– Programming and commissioning with the Gira Project Assistant (GPA), version 5 or higher
– Updating via the Gira Project Assistant (GPA)
– Encrypted data transmission between the Gira One devices

Characteristics switch operation

– Operation as NO or NC contacts

– Setting of a switch-on or switch-off delay

– Staircase function for which a pre-warning time can additionally be set.

– Configuration as a switching function, e.g. for a light or sockets, as a garage door function or door opener function, and as a switching contact for transmission of the heat requirement to a heat pump.

– Garage door function: The time for closing the relay can be configured.

– Door opener function: The time for closing the relay can be configured.

Characteristics blinds operation

– Control of blinds with slats, shutters, awnings, roof windows or roof domes.

– Travelling times can optionally be set.

– Sun protection function with blind or slat positions at the beginning and at the end of the function can be set separately for each output.

– Setting of the delay time at the beginning or end of sunshine.

– Fabric stretching for awnings.

– If a wind alarm is active, e.g. with a conventional weather station with potential-free relay outputs for wind alarm, the Venetian blinds are raised and automatically locked. The status of the binary input is monitored cyclically.

– If a rain alarm is active, e.g. with a conventional weather station with potential-free relay outputs for rain alarm, roof windows or roof domes are closed and automatically locked. The status of the binary input is monitored cyclically.

– If a frost alarm is active, e.g. with a conventional weather station with potential-free relay outputs for frost alarm, active notions of shutters are stopped and disabled to protect the shutter motor. The status of the binary input is monitored cyclically.

– Door contact polling and visualisation in the Smart Home app: An open door leads to the Venetian blind or shutters being raised and locked.

Extension input characteristics

– Single or dual-area operation can be configured for rockers.

– Connection of rockers that are configured with the function for switching, dimming, shading & ventilation, scene recall, staircase (motion detector), floor call with Gira G1, garage door and door opener.

– Connection of motion and presence detectors with potential-free relay outputs.

– Convenient group control of switching, dimming, shading and ventilation loads.

– Switching contact evaluation of wind, frost, brightness or rain sensors with potential-free relay outputs possible in order to protect shading and ventilation loads against environmental influences.

– Window contact polling and visualisation in the Smart Home app: An open window leads to the frost protection heating mode after a configured time has elapsed.

– Door contact polling and visualisation in the Smart Home app: An open door leads to the Venetian blind or shutters being raised and locked.

– Polling of a switch-over between heating/cooling at a heat pump in order to be able to forward the current operating mode (heating or cooling) to a heating controller.

– Switching contact indicator for displaying a contact state in the Smart Home app.

– Configurable switching inputs that can be parameterised independently.

– Acquisition and calibration of temperature values via remote sensors (see accessories) at input 3.

4 Information for electrically skilled persons

⚠ **DANGER!**

Mortal danger of electric shock.

Disconnect the device. Cover up live parts.

4.1 Mounting and electrical connection

⚠ **DANGER!**

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

This endangers the safety of the entire 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 or separate appliance boxes.

Connecting and fitting the device

– Enter or scan the device certificate and add it to the project. A high resolution camera should be used to scan the QR code.

– The device certificate should be removed from the device during mounting.

– Document all passwords and keep them safe.

Mounting in suitable appliance box (recommendation: electronic device box with partition). Observe cable routing and spacing (see figure 3)!
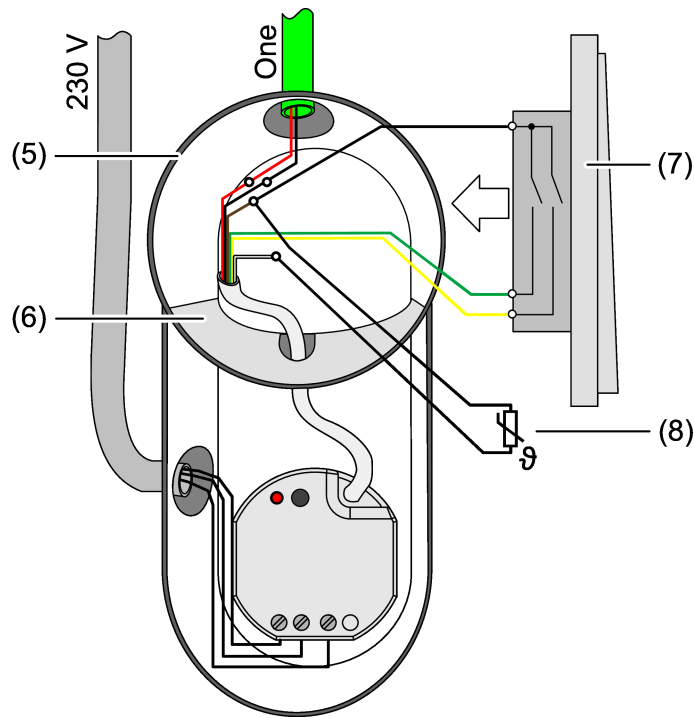
Image 3: Mounting example in electronic appliance box with partition wall, series push-button and NTC temperature sensor

(5)   Appliance box

(6)   Partition

(7)   potential-free contacts (e.g. series push-button)

(8)   NTC temperature sensor (optional)
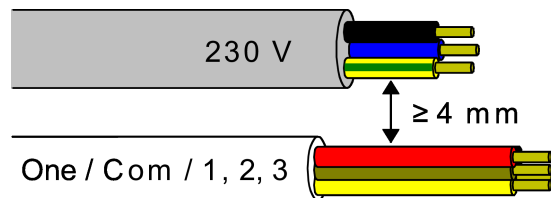
Image 4: Cable spacing

Minimum spacing between the mains voltage and bus/extension wires: 4 mm (see figure 4)
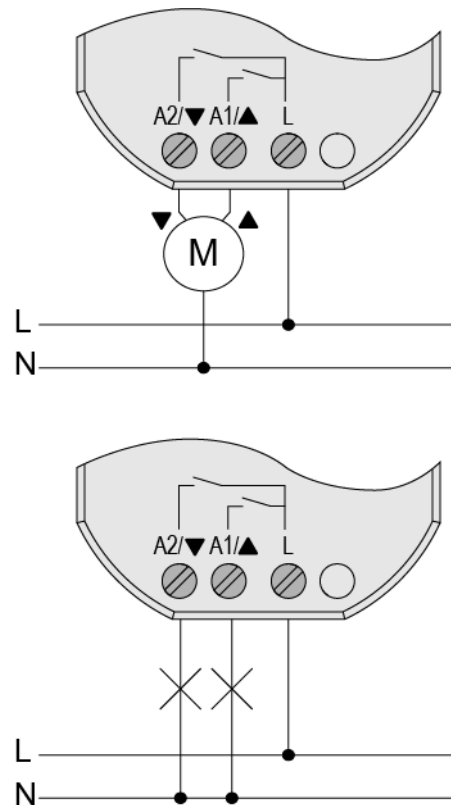
Image 5: Connection of load

Observe ambient temperature. Ensure adequate cooling.

- Connect bus line, observing the correct polarity.
- Connect load as shown in the connection example (see figure 5).
- If required, connect potential-free contacts or condensation/leakage sensors to inputs 1...3, or NTC temperature sensors to input 3 (see figure 2).
- Install the device in the appliance box.

|i| The COM reference potential must not be connected together with COM connections of other devices!

4.2   Commissioning

Commissioning the device

⚠ **NOTICE!**

Incorrect load control due to undefined relay state at delivery.

Risk of destruction of connected drive motors.

During commissioning, before switching on the load, ensure that all relay contacts are open by applying the bus voltage. Observe commissioning sequence!

- ■ Switch on the bus voltage.
- ■ Wait about 10 s.
- ■ Connect the load circuit.
- ⓘ Delivery state: The output is set as a Venetian blind output. Operation of the blind output possible via input 1 (UP) and input 2 (DOWN). Input 3 has no function.

Function of Inputs in the as-delivered state

Input	Push-button (NO contact)	Function
1	Press briefly (< 0.4 s)	Stop
1	Press briefly (< 0.9 s)	Adjusting the slats UP
1	Press for a long time (> 0.9 s)	Raise
2	Press briefly (< 0.4 s)	Stop
2	Press briefly (< 0.9 s)	Adjusting the slats DOWN
2	Press for a long time (> 0.9 s)	Lower
3	---	---

The device is commissioned with the Gira Project Assistant (GPA) version 5 or higher.

Safe-state mode

The safe-state mode stops the execution of the program.

Only the system software of the device is still functional. Diagnosis functions and programming of the device are possible.

Activating safe-state mode

- ■ Switch off the bus voltage or disconnect the device from the bus.
- ■ Wait about 10 s.
- ■ Press and hold down the programming button.

■   Switch on the bus voltage or connect the bus again at the device. Release the programming button only after the programming LED starts flashing slowly.

The safe-state mode is activated.

Deactivating safe-state mode

■   Switch off the bus voltage (wait approx. 10 s) or carry out programming.

Master reset

The master reset restores the basic device settings (firmware remains in place). The device must then be recommissioned with the GPA.

Performing a master reset

Precondition: The safe-state mode is activated.

■   Press and hold down the programming button for > 5 s.
The programming LED flashes quickly.

The device performs a master reset, restarts and is ready for operation again after approx. 5 s.

5   Technical data

Rated voltage	DC 21 ... 32 V SELV
Current consumption	5 ... 18 mA
Connection mode	Device connection terminal on control cable

Outputs

Connection mode	Screw terminals
Switching voltage	AC 250 V ~
Switching current per device	Σ 16 A
Fluorescent lamps	Σ 16 AX
Switch-on current 200 µs	max. 800 A
Switch-on current 20 ms	max. 165 A

Power consumption per output

Ohmic load	2500 W
Capacitive load	max. 16 A (140 µF)
Motors	1380 VA
Incandescent lamps	2300 W
HV halogen lamps	2300 W
HV-LED lamps	max. 400 W

LV halogen lamps with electronic transformers	1500 W
LV halogen lamps with inductive transformer	1200 VA
Compact fluorescent lamps uncompensated	1000 W
Compact fluorescent lamps parallel compensated	1160 W (140 µF)

Reduction of switching current per device (referred to Σ 16 A)

per 5 °C in excess of 35 °C	-10%
when installed in wooden or dry construction walls	-15%
when installed in multiple combinations	-20%

Clampable conductor cross-section

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
Connection torque, screw terminals	max. 0.8 Nm

Ambient conditions

Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Dimensions (W × H × D)	48 x 50 x 28 mm

Inputs

Control cable (preterminated)	YY6x0.6
Input type	Potential-free
Number	3
Total length of extension device cable	max. 10 m
Cable type (preferably)	J-Y(St)Y
Poll voltage, extension inputs	approx. 5 V

6   Accessories

Remote sensor (NTC temperature sensor)	1493 00
Condensation sensor	5069 00
Leakage sensor	5068 00

7   Parameter list

Parameters that can be set via the GPA:

Output - Switching functions

Function of the switching output	NO contact
	NC contact
NO contact The relay works as an NO contact. The logical switching state of the switching output is not forwarded to the relay in inverted form. Switching state = OFF ("0") -> relay contact open, Switching state = ON ("1") -> relay contact closed. NC contact The relay works as an NC contact. The logical switching state of the switching output is forwarded to the relay in inverted form. Switching state = OFF ("0") -> relay contact closed, Switching state = ON ("1") -> relay contact open.	

Switch-on delay	0 ... 3599 s (0 ... 59:59 min)
This parameter is used for setting the duration of the switch-on delay.	
After receipt of an ON-telegram, the time that can be configured here is started. The lamp is switched on after the set time has elapsed.	
A further ON-telegram during the switch-on delay time re-triggers the time, i.e. the time set here is started again.	
An OFF-telegram received during the ON-delay will end the delay and sets the switching status to "OFF".	

Switch-off delay	0 ... 3599 s (0 ... 59:59 min)
This parameter is used for setting the duration of the switch-off delay.	
After receipt of an OFF-telegram, the time that can be configured here is started. The lamp is switched off after the set time has elapsed.	
A further OFF-telegram during the switch-off delay time re-triggers the time, i.e. the time set here is started again.	
An ON-telegram received during the OFF-delay will end the delay and sets the switching status to "ON".	

Staircase switch Switch-off delay	0 ... 3599 s (0 ... 59:59 min)

The duration of the switch-on time for the staircase function is configured here.

Once the time set here has elapsed, the lighting is switched off or (if configured) the pre-warning time is started.

The staircase function is only active if the function "Staircase" has been selected for the push-button of this dimming channel.

Pre-warning time	0 ... 3599 s (0 ... 59:59 min)

In accordance with DIN 18015-2, the pre-warning is intended to warn persons still on the staircase that the light will soon be switched off automatically.

The pre-warning time set here is added to the time set in the parameter "Staircase switch switch-off delay".

Switching time	0 ... 65535 s (0 ... 18.20 h)

The switching time in seconds can be specified here.

Output - Blind functions

No travelling time	

If this option is activated, no explicit travelling times can be set for the blind/shutter. Preset travelling times are used instead.

This has the result that it is not possible to move this blind/shutter to defined positions (e.g. 60%).

Travelling time downwards	0 ... 1199 s (0 ... 19:59 min)

This parameter defines the travelling time for closing the blind/shutter.

For this, you must determine the time needed for a complete travel from the upper end position to the lower end position.

Travelling time upwards	0 ... 1199 s (0 ... 19:59 min)

This parameter defines the travelling time for opening the blind/shutter.

For this, you must determine the time needed for a complete travel from the lower end position to the upper end position.

Slat travelling time (for Venetian blind only)	0 ... 1199 s (0 ... 19:59 min)
This parameter defines the travelling time of the slats. For this, you must determine the time needed for a complete movement from the completely open slat position to the completely closed slat position (travel movement DOWN). This parameter is only visible in the Venetian blind operating mode.	

Time for fabric stretching (for awnings only)	0 ... 599 ms
The time for fabric stretching can be specified here. Once the awning has been completely extended and the switchover time has elapsed, it moves in the opposite direction for a period corresponding to the fabric stretching time configured here. This parameter is only visible in the awning operating mode.	

Delay at the beginning of sunshine	0 ... 3599 s (0 ... 59:59 min)
The telegram received via the object "Sunshine" for activation of the sun protection can be evaluated with a time delay.	

Venetian blind position at the beginning of sunshine	0 ... 100%
The blind/shutter position to which the blind/shutter is to be moved if sun protection has been activated can be defined here.	

Slat position at the beginning of sunshine (for Venetian blind only)	0 ... 100%
The slat position to which the slats are to be set if sun protection has been activated can be defined here. This parameter is only visible in the Venetian blind operating mode.	

Delay at the end of sunshine	0 ... 3599 s (0 ... 59:59 min)
The telegram received via the object "Sunshine" for deactivation of the sun protection can be evaluated with a time delay.	

Input

Debounce time	10 ... 255 ms
This parameter sets the debouncing time individually for the input. According to the time set here, the input signal at the input is evaluated with a delay.	

Contact type	NO contact
	NC contact
The contact type of the connected contact is defined here.	

When closing the contact	No reaction
	Switch on
	Switch off
	Toggle
This parameter determines the reaction when the contact connected to the input is closed.	

When opening the contact	No reaction
	Switch on
	Switch off
	Toggle
This parameter determines the reaction when the contact connected to the input is opened.	

Temperature calibration	- 12.8 ... 12.7 K
The value for the temperature calibration can be entered here if the temperature measured by the connected sensor differs from the actual room temperature.	
To determine the temperature deviation, the actual room temperature should be detected with a reference measurement using a calibrated temperature measuring device.	
The measured value must be raised if the value measured by the sensor is below the actual temperature. The measured value must be lowered if the value measured by the sensor is above the actual temperature.	

8 Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade. 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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