

**Venetian blind actuator wave GE 520****5WG3 520-4AB01****Product- and Application Description**

The Venetian blind actuator wave GE 520 is a 1-channel actuator with integrated KNX receiver/ transmitter for controlling sunblind drives with AC motor for 230V AC and electromechanical limit switches. The relay contacts are rated for AC 230V, 6A and counter-locked to switch over the direction of rotation. The Venetian blind actuator can be controlled by up to 30 radio sensors that are equipped with the GAMMA wave radio technology and integrated into a scene control with up to 16 scenes.

In connection with door/window contact wave AP 260, when the door or the window is opened, the connected Venetian blind is stopped and locked in this position.

The switch actuator is connected to the 230V network and supplied with current via an integrated power supply.

The GE device is embodied in an elongated design and is suitable for installation in devices, housing or under covers.

The Venetian blind actuator wave is put into operation without additional auxiliaries via a pushbutton installed on the top of the device and an LED to display the operation conditions in the "special function" operating mode.

**The "Special Function" operating mode includes the following functions:**

- Connecting radio sensors to the venetian blind control
- Clearing connections to radio sensors
- Resetting the device to the supplied state

**Technical Specifications****Frequency band**

- 868 MHz (transmission is not susceptible to interference; frequency band reserved for system and security applications)

**Range of radio control**

- Approx. 100 m in clear area

**Power supply**

- 230V power connection via terminals 2 (L) and 3 (N)
- Rated voltage: AC 230V, 50Hz
- Protection via 10A circuit-breaker, characteristic B or C required

**Control elements**

- 1 pushbutton: to switch between different operation and commissioning conditions

**Display elements**

- 1 red LED: to display the operation conditions and settings during commissioning

**Outputs**

- Number: 1 (2 relay contacts)
- Rated voltage: AC 230V
- Rated current: 6A at cos phi = 1

**Connections**

- 4 screw terminals for power supply and load supply; wire-stripping length approx. 7 ... 8 mm
- The following conductors or cross sections are permissible:
  - 0.5 to 4 mm<sup>2</sup> single-wire
  - 0.5 to 2,5 mm<sup>2</sup> finely stranded

**Mechanical specifications**

- Housing: plastic
- Dimensions: device installation, 42 x 32 x 274.5 mm (W x H x L)
- Weight: approx. 200 g
- Fire load: approx. 5000 kJ

**Electrical safety**

- Pollution degree (according to IEC 60664-1): 2
- Protection (according to EN 60529): IP 20
- Overvoltage category (according to IEC 60664- 1) III
- Device complies with EN 60669-2-1
- Relays with  $\mu$  contact

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**Electromagnetic compatibility**

- complies with EN 300220, EN 301489, EN 60669-2-1

**Environmental specifications**

- Climatic conditions: EN 50090-2-2
- Ambient operating temperature: - 5 + 45°C
- Storage temperature: - 25 +70°C
- Relative humidity (non-condensing): 5% to 93%

**Certification**

- complies with **KNX** - standard
  - radio frequency wave
  - easy mode push button **EP**

**CE norm**

complies with the EMC regulations, low voltage regulations and R&TTE regulations

SIEMENS AG hereby states that the venetian blind actuator wave GE 520 is in compliance with the basic requirements and the other relevant provisions of Regulation 1999/5/EC.

The CE declaration can be inspected at:

SIEMENS AG  
Siemensstraße 10  
93055 Regensburg, Germany

**Installation instructions****Caution:**

- Installation of the device in metal walls and ceilings should be avoided, since the range of radio control is thereby substantially reduced.
- Occasionally the transmission range may be influenced by structural factors (e.g., reinforced concrete) or electric/electronic sources of interference.
- A distance of at least 1 m must be maintained between the transmitter and the relevant receivers.
- Although the radio transmission occurs in the safe 868 MHz frequency band, interference in the radio transmission cannot be ruled out.
- The radio transmission used is not suitable for security applications.

**DANGER**

- The device may be used only in dry interior rooms, for installation in equipment, housings or under covers.
- The device must be mounted and commissioned by an authorized electrician.
- The device must not be opened.
- The prevailing safety and accident regulations must be observed.
- In the planning and installation of electric facilities, the relevant regulations, provisions and terms of the respective country must be observed.
- An insulated tool (e.g. a screwdriver with insulation) should be used to operate the pushbutton.
- The alarm object has a higher priority than the blocking object.

**Mounting**General description

The device is attached with two screws 4 mm Ø (bore spacing 251 mm central).

Opening the terminal chamber (Diagram B)

Press the snap-in lever (B1) down and outwards (black arrow) and flip up the cover of the terminal chamber (B2).

Closing the terminal chamber (Diagram B)

Press down and snap in the cover of the terminal chamber (B2) and screw in the locking screw (B3).

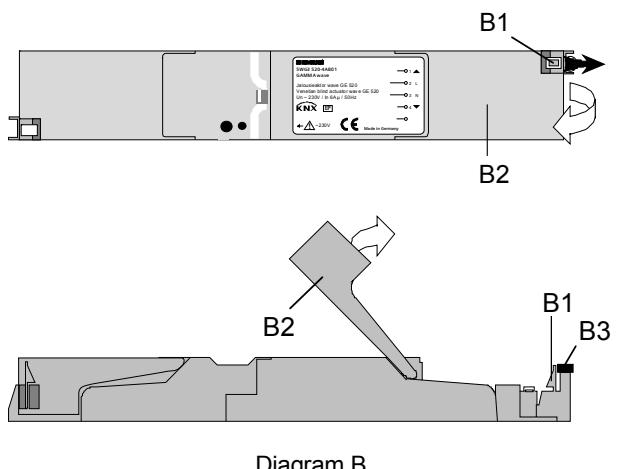


Diagram B

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Connect power supply and load circuit (Diagram C)

- The connections for the power supply and the load circuit are composed of screw terminals (C1).
- Insulate the conductors to be connected approx. 7 ... 8 mm, place in the terminals (C1) and screw in.
- The lead sheath is to be attached with the wire fixing (C2) to the housing of the installation device.

**Note:** Conductors up to 1.5 mm<sup>2</sup> single-wire can be looped directly to the terminal. It should be noted with looping that the maximum terminal current of 10A must not be exceeded!

With installation it should be noted that the outer conductor (L) and the neutral conductor must not be transposed, since otherwise the sensitivity of the radio receiver will be reduced and telegram losses may thereby occur.

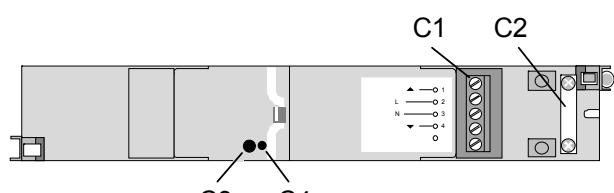


Diagram C

C1 Screw terminals  
C2 Wire fixing  
C3 Pushbutton  
C4 LED

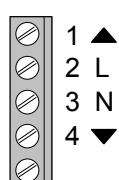


Diagram D

Terminal assignment (Diagram D)

1 ▲ Motor connection UP  
2 L Power supply (L) for actuator electronics and load  
3 N Power supply (N) for actuator electronics  
4 ▼ Motor connection DOWN

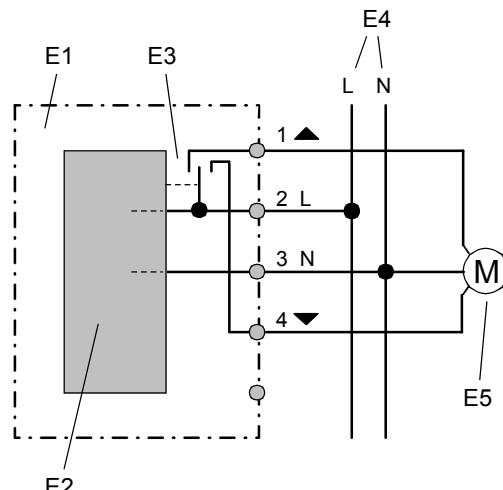


Diagram E

Connection example

E1 Venetian blind actuator wave GE 520  
E2 Actuator electronics  
E3 Counter-locked relay contacts  
E4 Power supply AC 230V, 50Hz  
E5 Sun blind motor

**Location and Function of the Display and Operating Elements**

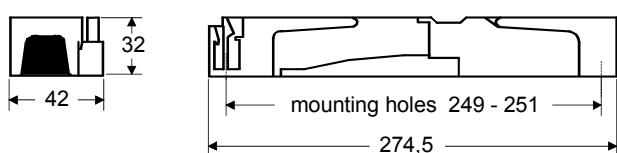
Diagram C

C3 Pushbutton to switch over to the "special function" operating mode, to select the commissioning functions for connecting the Venetian blind actuator via radio.

C4 LED to display different settings and conditions in the "special function" operating mode during commissioning.

**Dimension Diagram**

Dimensions in mm



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**Commissioning**

To control the connected sun blind, the Venetian blind actuator must first be connected via radio to GAMMA wave radio sensors, such as, e.g., pushbutton wave shutter, transmitter wave, wave handheld transmitter wave, door/window contact wave, etc.

The connection is made by switching on the "special function" operating mode on the Venetian blind actuator, by short actuation of the pushbutton and display via the LED. Subsequently, sending the program telegrams is to be triggered at the GAMMA wave radio sensor to be connected (see operating instructions for the corresponding device).

The Venetian blind actuator can be connected to up to 30 GAMMA wave radio sensors.

If a door/window contact wave AP 260 is also connected by radio to the Venetian blind actuator, when the door or the window is opened, the connected Venetian blind is stopped and locked (blocked) in this position. The alarm actuating device that can be used, e.g., in the connection of the Venetian blind actuator wave with the coupler wave / instabus UP 140, has higher priority than this blocking device.

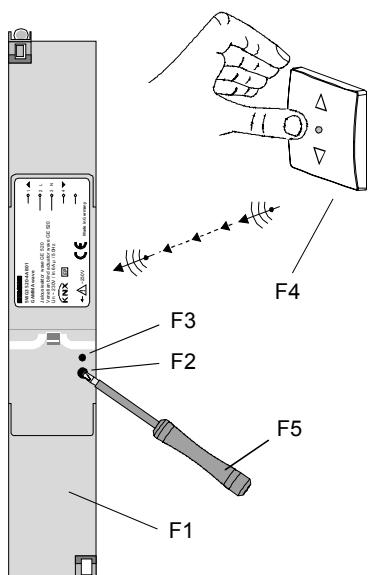
**Connection via radio:**

Diagram F

F1 Venetian blind actuator wave GE 520

F2 Pushbutton

F3 LED

F4 Radio button with GAMMA wave radio technology

F5 Insulated screwdriver

To connect a radio sensor to the Venetian blind actuator wave, it should be switched to the "special function" operating mode.

**Special function Venetian blind actuator:**

A brief actuation of the pushbutton (F2) for the duration of up to 3 seconds switches the actuator to the "special function" operating mode. This is displayed by a slow flashing with approx. 0.5 Hz (once in 2 seconds) by the LED (F3).

**Programming a radio sensor.**

To program a radio sensor to the Venetian blind actuator wave, carry out the following steps 1, 2 and 3 one after the other:

**1. Switch on special function.**

Action: Brief actuation of the pushbutton (F2) for the duration of no more than 3 seconds.

Display: Within 3 seconds after the release of the pushbutton the LED (F3) begins to flash slowly (once in 2 seconds) with approx. 0.5 Hz.

The Venetian blind wave actuator waits for radio telegrams to connect to a sensor.

**2. Trigger program telegram at the radio sensor wave.**

Action: Trigger the sending of the program telegrams at the radio sensor (F4) to be connected (switch to special function via DIP switch, pushbutton, etc., depending on the device, see operating instructions for the corresponding device).

**3. Successful connection.**

Display: After receipt of the program telegrams of the radio sensor (F4) and successful connection, the LED (F3) flashes quickly for the duration of approx. 3 seconds with approx. 2.5 Hz (3 times per sec.). Subsequently the LED clears and the Venetian blind actuator exits the "special function" operating mode.

Programming the radio sensor to the Venetian blind actuator has been completed.

**Note:** There is only a limited time available for connection, since the Venetian blind actuator wave exits the special function after approx. 2 minutes.

If connection fails (e.g., if the distance between the Venetian blind actuator and the radio sensor is too great), the Venetian blind actuator wave exits the special function after approx. 2 minutes without confirming success by rapid flashing. The LED clears.

If the Venetian blind actuator wave is to be connected to further radio sensors, this operation should be repeated.

#### **Deleting a connection:**

Deleting a connection is carried out by reassignment (Diagram F).

To delete a connection between a radio sensor and the Venetian blind actuator wave, carry out the following steps 1 and 2 one after the other:

1. Activate the "special function" in the Venetian blind actuator wave (activate the pushbutton (F2) briefly for no more than 3 seconds).
2. Trigger the sending of the program telegrams at the radio sensor to be deprogrammed (see operating instructions for the corresponding device).

The connection of the radio sensor to the Venetian blind actuator wave is thus cleared.

#### **Delete all the connections and resetting the Venetian blind actuator wave to the supplied state:**

Action: Very long actuation of the pushbutton (F2) for at least 10 seconds.

Display: After 10 seconds the LED will flash rapidly for the duration of approx. 3 seconds with approx. 2.5 Hz (3 times per sec.).

All connections to the Venetian actuator are cleared. The device is in the supplied state.

If the pushbutton remains pushed for a maximum of 3 seconds after resetting to the supplied state, it will be directly switched to the "special function".

#### **Exiting the "special function" operating mode:**

If the Venetian blind actuator wave is in the special function, this condition can be ended by the following actions and switched back to normal function:

- Successful connection via radio by receipt of program telegrams of a radio sensor wave.
- Long actuation of the pushbutton (F2) for at least 10 seconds.
- Time out after approx. 2 minutes (for duration of approx. 2 minutes no actuation of the pushbutton (F2) and no receipt of program telegrams).

#### **General Notes**

- The operating instructions should be handed over to the customer.
- Any faulty devices should be returned to the local Siemens office.
- If you have any further queries about this product, please contact our technical support:



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