

Shutter Switch GE 521 5WG1 521-4AB02 1 x 230 V AC / 6 A, 42 x 28 mm

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Product and Applications Description

The GE 521 shutter switch has an oblong design and is therefore suitable for mounting in devices or for separate mounting. Via its four volt free contacts it can raise and lower blinds and gradually adjust louvers.

One channel is provided for two actuators allowing to control up to two blinds actuators.

The volt free contacts (one relay) can be assigned various tasks depending on the application program used, i.e. the shutter switch GE 521 consists of the device (hardware) and its application programs (software) for controlling venetian blinds.

With the ETS (EIB Tool Software) the application program is selected, its parameters and addresses are assigned appropriately, and downloaded to the shutter switch GE 521.

Application Programs

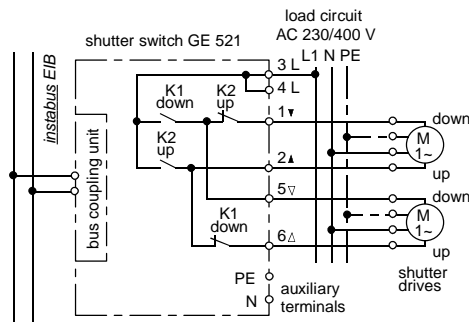
See Siemens product database from version D onward

WARNING

When using the shutter switch GE 521 for controlling blinds actuators the instructions below must be followed (failure to do so may result in the contacts welding):

- Do not use older application programs (e.g. 11 A2 Shutter 520203) anymore with the shutter switch N 521, use 11 A2 Shutter 520205 instead.
- The factor and base values of the parameter "Reverse delay" must be combined to establish a time period as given by the blinds manufacturer (usually > 500 ms).
- The parameter "on bus voltage failure" should be set to "maintain current state" or "stop".

Example of Operation



Technical Specifications

Power supply
via bus cable

Outputs

- number: 1 output channel (volt free contacts)
- rated voltage: AC 230 V, 47 ... 63 Hz
- rated current: 6 A resistive load
- switching current at AC 230 V
 - 0.01 ... 6 A resistive load
 - tubular motors with auxiliary phase capacitor $\leq 14 \mu\text{F}$, max. power 500 VA at 20000 load switching cycles (UP-DOWN-STOP) respectively max. 750 VA at 12000 load switching cycles
 - total maximum load at $\cos\phi = 0.4$: 750 VA
- switching current at DC 24 V:
 - 6 A resistive load,
 - 4 A inductive load (L/R = 7 ms)
- switching characteristic: set in parameter list according to application program
- switching refresh intervals: min. 150 ms

Control elements

1 learning button:
for switching between normal operating mode and addressing mode

Display elements

1 red LED:
for monitoring bus voltage and displaying mode, selected with the learning button

Connections

- load circuit, physical:
 - strip insulation for 9 ... 10 mm
 - permissible conductor types/cross sections:
 - 0.5 ... 2.5 mm² single core or flexible conductor, 8 mm ultrasonically compacted
 - 0.5 ... 2.5 mm² flexible conductor with terminal pin, crimped on gas tight
 - 0.5 ... 1.5 mm² flexible conductor with connector sleeve
 - 1.0 and 1.5 mm² plain flexible conductor
- load circuit, electrical:
 - plain flexible conductor, min. 1 mm²: current carrying capacity max. 6 A
 - all other conductors, min. 1.5 mm²: current carrying capacity max. 10 A
 - The load circuits must be protected with a 10 A miniature circuit breaker A or B characteristic.

WARNING

When looping through the L-conductor (connection blocks 3 and 4), take care that the maximum connection current of 10 A (as governed by the maximum permissible printed conductor load) is not exceeded!

- bus line: screwless bus connection block: $\varnothing 0,6 \dots 0,8$ mm single core

Physical specifications

- housing: plastic
- dimensions (W x H x L): 42 x 28 x 274,5 mm
- weight: approx. 190 g
- fire load: approx. 3900 kJ \pm 10 %
- installation: screw-mount into devices

Electrical safety

- fouling class (according to IEC 664-1): 2
- protection (according to EN 60529): IP 20
- overvoltage class (according to IEC 664-1): III
- bus: safety extra low voltage SELV DC 24 V
- relay with μ -contact
- the device complies with EN 50090-2-2 and EN 60669-2-1

Reliability

rate of failure: 522 fit at 40 °C

Electromagnetic compatibility

complies with EN 50081-1, EN 50082-2 and EN 50090-2-2

Environmental specifications

- climatic conditions: EN 50090-2-2
- ambient temperature operating: - 5 ... + 45 °C
- ambient temperature non-op.: - 25 ... + 70 °C
- relative humidity (non-condensing): 5 % to 93 %

Certification

EIB certificate

CE norm

complies with the EMC regulations (residential and functional buildings), and low voltage regulations

Location and Function of the Display and Operator Elements

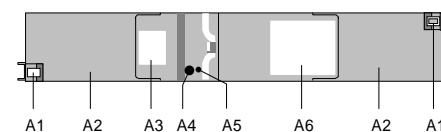


Figure 1: Location of the display and operator elements

- A1 Levers for snapping the cover lids shut
- A2 Cover lids of the connection block compartments
- A3 Label for noting the physical address
- A4 Learning button for switching between normal operating mode and addressing mode for receiving the physical address
- A5 LED for indicating normal operating mode (LED off) and addressing mode (LED on); upon receiving the physical address the device automatically returns to normal operating mode
- A6 Type plate

Installation Instructions

- The device may be used within casings or other devices, or surface mounted.

WARNING

- The device must be mounted and commissioned by an authorised electrician.
- A safety disconnection of the device must be possible.
- Take care that 230 V devices that are used in combination with this device provide a basic insulation of 250 V to the line; otherwise a safety distance of 4 mm must be kept. If in doubt, extra insulation should be added.
- The prevailing safety rules must be heeded.
- The device must not be opened. A device suspected faulty should be returned to the local Siemens office.

Mounting and Wiring

General description

The devices can be built into casings or mounted separately with two screws, $\varnothing 4$ mm.

Opening the connection block compartment (Figure 2)

- Press the snap levers (A1) outwards (black arrows) and remove the cover lids (A2) of the compartments.

Closing the connection block compartment (Figure 2)

- Press the cover (A2) down until it clicks into place.

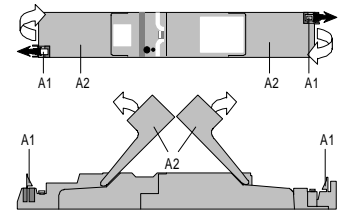


Figure 2: Opening and closing the cover lids

Slipping off bus connection blocks (Figure 3)

- The bus connection block (B3) is situated in the left connection block compartment. It consists of two components (B3.2 and B3.3) with four terminal contacts each. Take care not to damage the two test sockets (B3.1) by accidentally connecting them to the bus cable or with the screw driver (e.g. when attempting to unplug the bus connection block).
- Carefully put the screw driver to the wire-inserting slit of the bus connection block's grey component (B3.3) and pull the bus connection block (B3) from the built-in device. When removing the red component of the bus connection block, the grey component remains in the compartment.

Note: Don't try to remove the bus connection block from the bottom side. There is a risk of shorting-out the device!

Slipping on bus connection blocks (Figure 3)

- Slip the bus connection block onto the guide slot
- press the bus connection block (B3) down to the stop.

Connecting bus cables (Figure 3 "A")

- The bus connection block (B3) can be used with single core conductors $\varnothing 0,6 \dots 0,8$ mm.
- Remove approx. 5 mm of insulation from the conductor (B3.4) and plug it into the bus connection block (B3) (red = +, grey = -).
- The sheathing of the bus cable must be attached to the casing of the built-in device via the conductor fixing (B1). When using a cable with shielding, it can be screwed onto the terminal (B7, Figure 3).

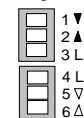
The recess (B2) can be used to accommodate an overvoltage protection which is connected to the bus connection block in parallel with the bus line (Figure 3).

Disconnecting bus cables (Figure 3 "A")

- Unplug the bus connection block (B3) and remove the bus cable conductor (B3.4) while simultaneously wiggling it.

Connecting load circuits (Figure 3 "B")

- The load circuit is connected to screwless plug-in terminals (B4).
- Remove approx. 9 to 10 mm of insulation from the wire (B4.1) and plug it into the terminal (B4).
- The sheathing of the bus cable must be attached to the casing of the built-in device via the conductor fixing (B8, Figure 3).
- Plug-in terminal assignment:



The terminals (B5) and (B6) are used to connect the N wire (B6) and PE wires (B5) of several cables (Figure 3).

Conductor cross sections: see technical specifications

Disconnecting load circuits (Figure 3 "B")

- Press the terminal lock (B4.2) with a screw-driver
- remove the connector (B4.1) from the terminal (B4).

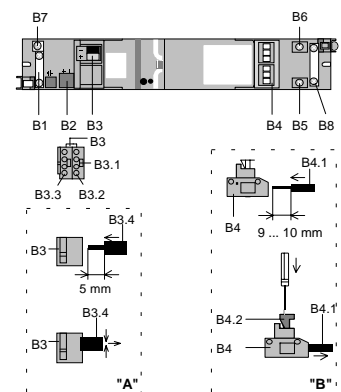


Figure 3: Connections