

Switching/Dimming Actuator GE 525
1 x 230 V AC / 10 A, 42 x 28 mm
5WG1 525-4AB02
Product and Applications Description


The GE 525 switching/dimming actuator is an oblong device and suitable for fitting in luminaires for fluorescent lamps. It can also be mounted separately.

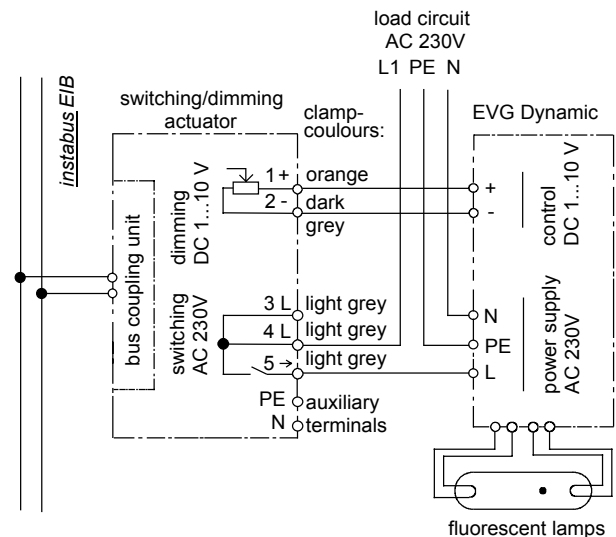
The device controls fluorescent lamps via the DC 10 V control terminal of an electronic control gear (ECG-Dynamic-type). In addition there is a switching contact for directing switching on/off of fluorescent lamps. Different functions can be parameterised such as for switching on/off fluorescent lamps, increasing/decreasing brightness or setting a particular level of brightness.

With a GE 525 switching/dimming actuator several ECG-Dynamic-Type ballasts can be controlled. The number is limited by the switching capacity and the control power. If the on/off function actuator is not used via the switching contact of the switching/dimming actuator, the number of controllable ECGs is only dependent on the load of the DC 10 V control voltage (see Technical Specifications below).

With the ETS (EIB Tool Software) the application program is selected, its parameters and addresses are assigned appropriately, and downloaded to the switching/dimming actuator GE 525.

Application Programs
11 A1 Dimmer 610106

- single switch/dim actuator
- for switching on/off, dimming, set-value
- allows switching on bus voltage failure
- allows switching on bus voltage recurrence
- initial value on switching on can be specified
- allows state to be read via bus
- allows dimming to 0 % (i.e. switching off)
- allows dimming and set value operations while switched off without having to switch on

Example of Operation

Installation Instructions

- The device may be used for permanent interior installations in dry locations within casings or other devices, or surface mounted.


WARNING

- The device must be mounted and commissioned by an authorised electrician.
- The device may be mounted into devices and casings and may be used as surface mounted device
- 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.
- A safety disconnection of the device must be possible.
- 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.

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Technical Specifications

Power supply

via bus cable

Outputs

- number: 1 output (voltage free contact)
- rated voltage: AC 230 V, 47 ... 63 Hz
- rated current: 10 A resistive load
- switching current at AC 230 V:
0,01 ... 10 A resistive load
- switching current at DC 24 V:
 - 10 A resistive load,
 - 4 A inductive load (L/R = 7 ms)
- switching characteristic: set in parameter list according to application program

Switching power at AC 230 V

- at fluorescent lamp (FL) load:
 - Siemens ECG Dynamic for 58 W FL: max. 10 units
 - Siemens ECG Dynamic for 36 W FL: max. 15 units
 - Siemens ECG Dynamic for 18 W FL: max. 20 units

Control voltage

1 ... 10 V (ECG Dynamic)

Control power

- ECG Dynamic: max 50 units
- signal amplifier: max 50 units

Electric protection

an electric safeguard protects the control circuit against destruction by accidental connection to AC 230 V.

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 and control 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 16 A (as governed by the maximum permissible printed conductor load) is not exceeded!

- bus line, screwless bus connection block:
Ø 0,6 ... 0,8 mm single core

Physical specifications

- housing: plastic
- dimensions (W x H x L): 42 x 28 x 274,5 mm
- weight: approx. 200 g
- fire load: approx. 4050 kJ ± 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
- the device complies with
EN 50090-2-2 and EN 60669-2-1

Reliability

rate of failure: 529 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

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Location and Function of the Display and Operator Elements

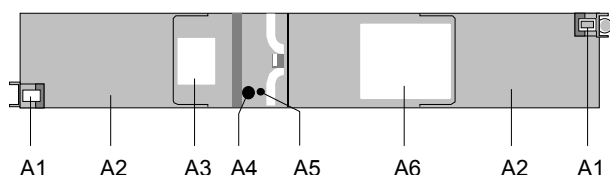


Figure 1: Location of the display and operator elements

- 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

Mounting and Wiring

General description

The devices can be built into casings or mounted separately with two screws, Ø 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.

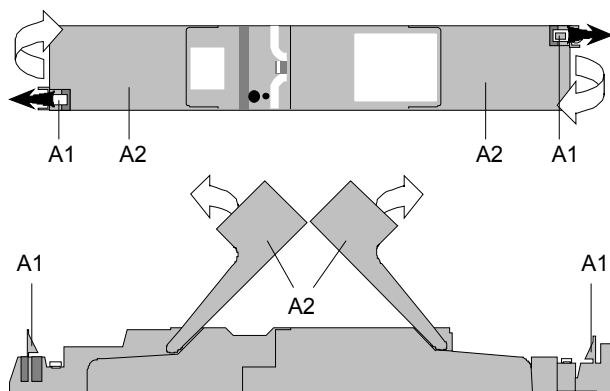


Figure 2: Opening and closing the cover lids

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 and
- 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 Ø 0,6 ... 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 over-voltage protection which is connected to the bus connection block in parallel with the bus line (Figure 3).

Disconnecting bus cables (Figure 3 "A")

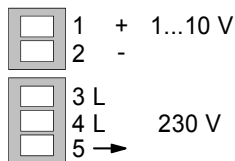
- Unplug the bus connection block (B3) and remove the bus cable conductor (B3.4) while simultaneously wiggling it.

Connecting load and control circuits (Figure 3 "B")

- The load and control circuits are 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).

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- Plug-in terminal assignment:



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

Conductor cross sections:

- load and control 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

Disconnecting load and control circuits (Figure 3 "B")

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

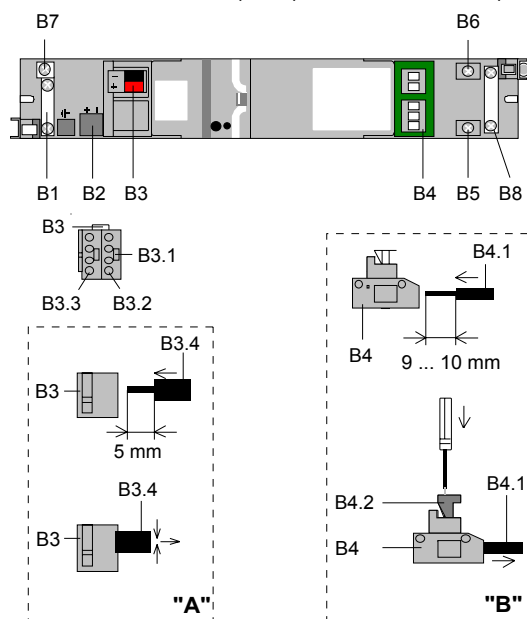


Figure 3: Connections

Dimension Diagram

Dimensions in mm

