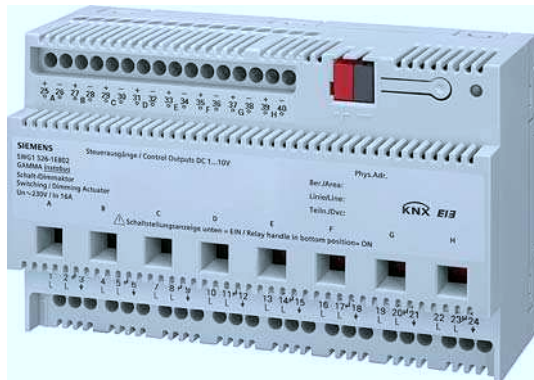


## Switching/Dimming Actuator N 526E02 8x AC 230 V / 16 A

5WG1 526-1EB02

### Product and applications description



The switching/dimming actuator N 526E02 is a N-system DIN-rail mounted device for controlling up to eight groups (channels) of fluorescent lamps via the DC 1-10 V control terminal of dimmable electronic ballasts (e.g. ECG-Dynamic-type from Osram).

In addition there is per channel a switching contact for direct switching on/off of the connected fluorescent lamps. This contact can be operated manually via a slide switch which also indicates the actual switching state of the channel (when switching manually as well as when switching via the bus). A channel is switched on when the slide is in the lower position.

Different functions can be configured per channel such as for switching on/off fluorescent lamps, dimming up / down or setting a particular dimming level.

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

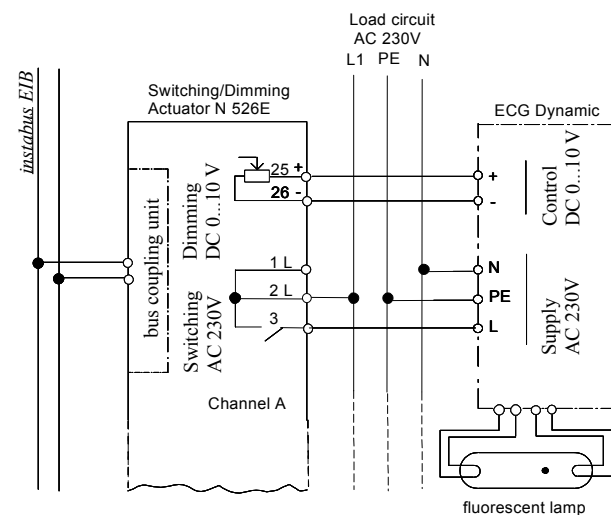
One channel of the N 526E02 switching/dimming actuator can control several dimmable electronic ballasts. Their number is limited by the switching capacity and by the control power. If the on/off function is not used via the switching contact of the switching/dimming actuator, the number of controllable ECGs is only dependent on the load of the DC 1-10 V control voltage. This might allow to control a larger number of ECGs (see Technical Specifications below).

The power supply of the N 526E02 electronics is provided via the bus (i.e. it requires no additional power supply). When projecting an installation it has to be considered that a N 526E02 represents a double (and for short times even a triple) bus load and takes up to 30 mA from the bus.

### Application program

The switching/dimming actuator N 526E02 works only together with the application program 25 A8 Switch-/Dimm Actuator 981301. This new application program contains several modifications and new functions (e.g. an integrated 8-bit scene control). The application program can be loaded from ETS2 V1.3 onwards.

### Connection example



The channels B to H have to be connected correspondingly.

### Installation instructions

- The device may be used for permanent interior installations in dry locations within distribution boards or small casings with DIN-rail TH35-7.5 according to EN 60715.

### DANGER

- The device must be mounted and commissioned by an authorised electrician.
- A safety disconnection of the device must be possible.
- Free DIN-rail areas with stuck-in data-rail must be covered with covers (order no. 5WG1 192-8AA01).
- The device may not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.

**Switching/Dimming Actuator N 526E02**  
**8x AC 230 V / 16 A****5WG1 526-1EB02****Technical specifications****Power supply**

- Bus voltage: carried out via the bus line
- Bus current: **Notice:** the device represents at least a double bus load and takes up to 30 mA from the bus.

**Outputs**

- number: 8 outputs (latch relays, potential free contacts)
- rated voltage: AC 230 V, 50 ... 60 Hz
- rated current: 16 A, cos phi = 1
- switching current at AC 230 V: 0,1 ... 16 A, cos phi = 1
- DC switching current:
  - DC 10 ... 30 V: max. 16 A, resistive load
  - DC 230 V: max. 0,18 A, resistive load
- switching characteristic: to be set in parameter list (see application program description)

**Control voltage**

- 1 ... 10 V (provided by dimmable ballast)
- in case of bus voltage failure: 10 V

**Control power**

- dimmable electronic ballast: max 60 units
- signal amplifier: max 12 units

**CAUTION**

There is **no protection** of the control circuits against destruction by accidental connection to AC 230 V !

**Operating elements**

- 1 learning push button:  
for toggling between normal mode/addressing mode
- 8 slide switches for manual operation  
(slide in upper position: relay contact open = OFF,  
slide in lower position: relay contact closed = ON)

**Display elements**

- 1 red LED:  
for checking the bus voltage and for displaying normal mode/addressing mode
- 8 slide switches for displaying the switching position per channel (see above)

**Connections**

- load and control circuit, physical:  
insulation strip length 8 ... 9 mm  
permissible conductor types/cross sections:
  - 0,5 ... 4 mm<sup>2</sup> single core
  - 0,5 ... 2,5 mm<sup>2</sup> flexible conductor
- load circuit, electrical:
  - plain flexible conductor, min. 1 mm<sup>2</sup>:  
current carrying capacity max. 6 A

- flexible conductor with terminal pin,  
crimped on gas tight, min. 1,5 mm<sup>2</sup>:  
current carrying capacity max. 10 A
- all other conductors, min. 1,5 mm<sup>2</sup>:  
current carrying capacity max. 16 A

**CAUTION**

When looping through the L-conductor (connection blocks 1 and 2, 4 and 5, 7 and 8, 10 and 11, 13 and 14, 16 and 17, 19 and 20, 22 and 23), take care that the maximum connection current of 16 A (as governed by the maximum permissible printed conductor load) is not exceeded!

- Bus line:
  - pressure contacts on data-rail
  - screwless bus connection block,  
Ø 0,6 ... 0,8 mm single core,  
insulation strip length 5 mm

**Physical specifications**

- Housing: plastic
- N-system DIN-rail mounted device,  
width: 8 MU (1 MU = 18 mm)
- weight: approx. 470 g
- fire load: approx. 6400 kJ ± 10 %
- installation: clip-on mounting onto a rail TH35-7.5 according to EN 60715.

**Electrical safety**

- Degree of pollution (according to IEC 60664-1): 2
- Type of protection (according to EN 60529): IP 20
- Overvoltage category (according to IEC 60664-1): III
- Bus: safety extra-low voltage SELV DC 24 V
- Relay with µ-contact
- Device complies with EN 50090-2-2, EN 60669-2-1

**Electromagnetic compatibility**

complies with EN 61000-6-2, EN 61000-6-3 and EN 50090-2-2

**Environmental conditions**

- Climatic withstand capability: EN 50090-2-2
- Ambient operating temperature: - 5 ... + 45 °C
- Storage temperature: - 25 ... + 70 °C
- Relative humidity (not-condensing): 5 % to 93 %

**Markings**

- KNX *EIB*

**CE mark**

- In accordance with EMC guideline (residential and functional buildings) and the low voltage guideline

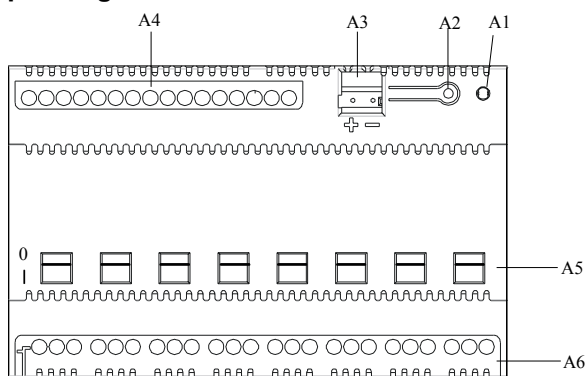
**Switching/Dimming Actuator N 526E02**  
**8x AC 230 V / 16 A**
**5WG1 526-1EB02**
**Location and function of the display and operating elements**


Figure 1: Location of operating and display elements

- A1 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
- A2 Learning button for switching between normal operating mode and addressing mode
- A3 bus connection block, screw-less
- A4 screw terminals for connecting the control circuits
- A5 Slide switches for manual operation and for displaying the switching position per channel. Slide in upper position: relay contact open (OFF) Slide in lower position: relay contact closed (ON)
- A6 mains connection blocks (screw terminals) for connecting load circuits

**Important note:**

Manual operation is for emergency operation only and not affecting the application program. No telegram is sent on the bus, and the new switching status is unknown to the software.

At bus voltage failure / recovery a previously manually operated relay will also be set automatically to the configured position.

**Mounting and wiring**
**General description**

The N-system DIN-rail mounted device (8 MU) can be inserted to N-system distribution boards, either surface- or flush mounted and wherever rails TH35-7.5 according to EN 60715 are available.

**Bus connection**

The connection to the bus line is carried out via a bus terminal block or by clicking the device onto a DIN-rail (with a data-rail installed). Take care that the type plates of all devices on a DIN-rail can be read in the same direction, guaranteeing the devices are polarised correctly.

If the connection is established via a bus connection block (data-rail not installed) the contacting system towards the data-rail has to be covered by removing the guide top e.g. with a screw-driver and afterwards snapping on the insulation top to ensure a sufficient insulation towards the DIN-rail (see figure 2).

When mounting the switching/dimming actuator N 526E02 onto a DIN-rail with stuck-in data-rail (even in combination with other DIN-rail devices) the usually employed bus line connector is not necessary. The bus voltage is forwarded within the device from the bus connection block to the data-rail pressure contacts of the N 526E02.

**Installation of the DIN-rail mounted device (Figure 2)**

- Hang the device (B1) into the DIN-rail (B2) and
- rotate the device downwards until the slide bar audibly clicks into position.

**Dismantling the DIN-rail mounted device (Figure 2)**

- Remove all connected cables,
- press the slide bar (C3) downwards with a screw-driver and
- remove the device (C1) from the DIN-rail (C2) with a swivel action.

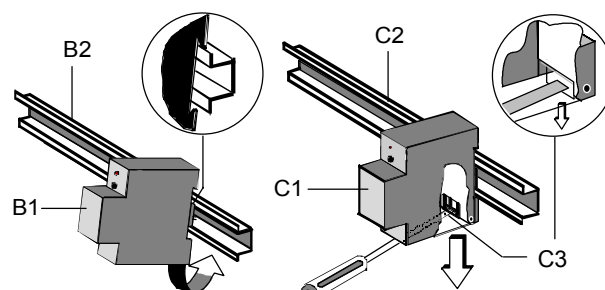


Figure 2: Installing and dismantling the DIN-rail mounted device

**Removing the guide top (Figure 3)**

- The guide top (D3) encloses the contacting system (D2) on the back side of the N 526E02 (D1)
- Insert the screw-driver between the N 526E02 (D1) and the guide top (D3) and pull out the guide top.

**Snapping on the insulation top (Figure 3)**

- Stick the insulation top (D4) onto the contacting system (D2) and snap it on by pressing.

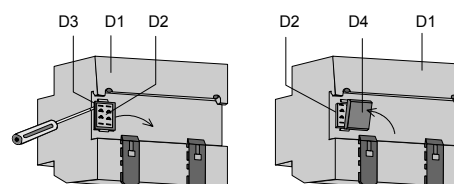


Figure 3: Covering the contacting system

**Switching/Dimming Actuator N 526E02**  
**8x AC 230 V / 16 A**
**5WG1 526-1EB02**Removing the bus terminal (Figure 4)

- The bus terminal block (E1) consists of two sections (E1.1 and E1.2), each with four terminal contacts. Care should be taken not to damage the two test sockets (E1.3) by accidentally connecting them to the bus conductor or with the screwdriver (when trying to remove the bus terminal).
- Carefully insert the screwdriver in the wire entry slot underneath the bus terminal (E1) and pull the bus terminal forwards out of the device (E2).

**CAUTION**

Care should be taken as there is a risk of to short circuit the bus voltage when removing the bus terminal block with a screwdriver.

Plugging in the bus terminal (Figure 4)

- Place the bus terminal (E1) to the guide slot and
- push the device backwards until it reaches the stop.

Connecting the bus cable (Figure 4)

- The bus terminal (E1) is suitable for single core conductors with 0.6 ... 0.8 mm Ø.
- Strip approx. 5 mm of the insulation from the conductors (E1.4) and plug in them into the terminal block (E1) (red = +, black = -).

Disconnecting the bus cable (Figure 4)

- Remove the bus terminal block (E1) and the conductors (E1.4) of the bus cable by rotating them simultaneously backwards and forwards.

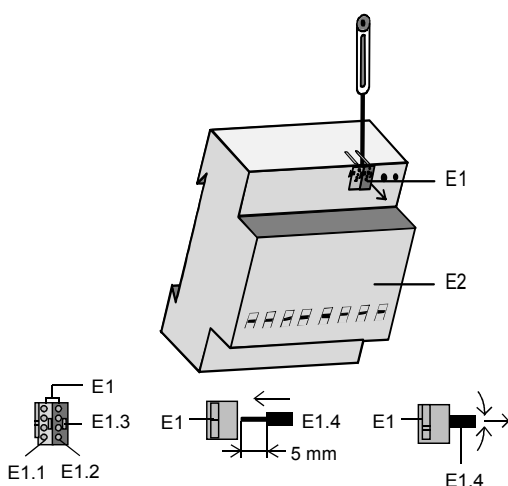


Figure 4: Connecting, disconnecting the bus cable

Connecting load and control circuits (Figure 5)

- Strip approx. 8 ... 9 mm of insulation from the conductor (F1.1), plug in the terminals (F1) and tighten the screws (F1.2).

Cross sections: see "Technical specifications".

Disconnecting load and control circuits (Figure 5)

- Loosen the screw (G1.2) and pull the conductor (G1.1) out of the terminal (G1).

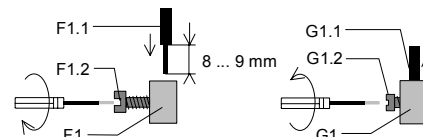
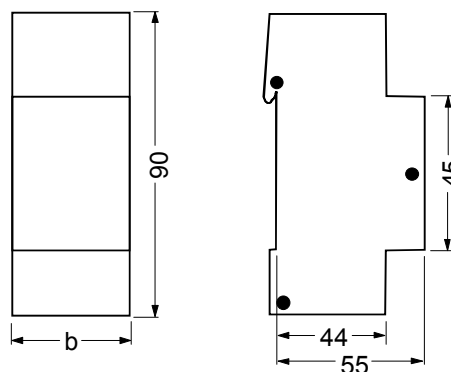


Figure 5: Connecting, disconnecting load and control circuits

**Dimension drawing**

Dimensions in mm



b = 8 module units (MU)

1 MU = 18 mm

**General notes**

- Any faulty device should be returned to the local Siemens office.
- If you have further questions about the product, please contact our Technical Support:

+49 (0) 180 50 50-222

+49 (0) 180 50 50-223

[www.siemens.com/automation/support-request](http://www.siemens.com/automation/support-request)