

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 Programs

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.

Technical Specifications

- Power supply**
- Bus voltage: DC 29V (Class 2) 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**
- 8 outputs (latch relays, potential free contacts)
  - rated voltage: AC 277 V, 50 ... 60 Hz
  - rated current: 20 A, cos phi = 1
  - switching current at AC 277 V: 0,1 ... 20 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 mains voltage!

- 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 mm² single core
    - 0,5 ... 2,5 mm² flexible conductor
  - load circuit, electrical:
    - plain flexible conductor, min. 1 mm²: current carrying capacity max. 6 A
    - flexible conductor with terminal pin, crimped on gas tight, min. 1,5 mm²: current carrying capacity max. 10 A
    - all other conductors, min. 1,5 mm²: 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 20 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**
- polymer casing
  - N-system DIN-rail mounted device, width: 8 MU (1 MU = 18 mm)
  - weight: approx. 470 g (29oz)
  - installation: rapid mounting on DIN rail complying with EN 60715-TH35-7,5

**Electromagnetic compatibility**

complies with Part 15 of the FCC rules pursuant to the limits for a Class A digital device

- Environmental specifications**
- ambient temperature operating: - 5 ... + 45° C (23...113°F)
  - maximum ambient temperature range: - 25 ... + 70° C (-13...158°F)
  - relative humidity (non-condensing): 5 % to 93 %

Listings and Certifications

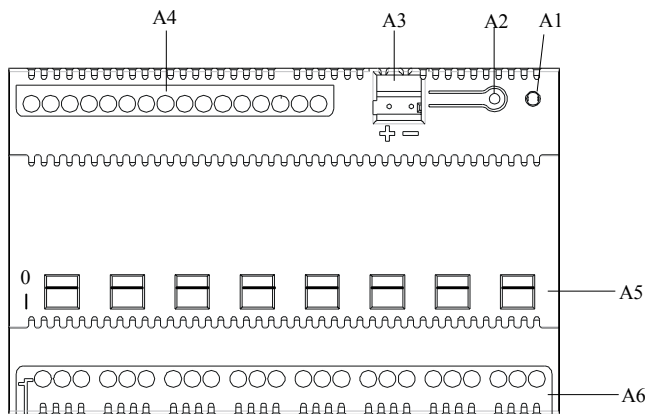
- UL listed (E464611)**
- UL 916, Open Energy Management Equipment
- CSA certified**
- CE marked**
- In accordance with the EMC guideline (residential and functional buildings) and the low voltage guideline.
- KNX / EIB certified**
- Markings**
- KNX, EIB, CE, UL

Switch/Dimming Actuator  
N526E02

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Location and Function of the Display  
and Control 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.

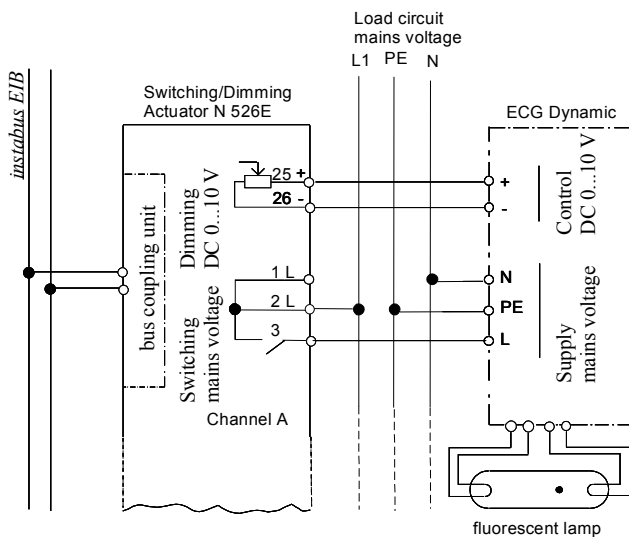
At bus voltage failure / recovery a previously manually operated relay will also be set automatically to the configured position.

**Installation Instructions**

The device may be used for permanent interior installations in dry locations within distribution boards or small casings with DIN rail EN 60715-TH35-7,5.

This equipment is intended for field installation within the enclosure of another product.

**Typical circuit**

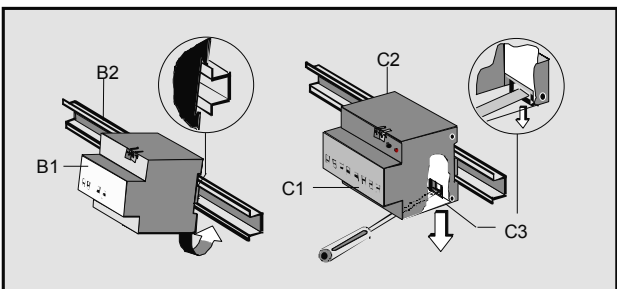


# WARNING

**Hazardous voltage. Can cause death, or serious injury or property damage. Disconnect and lock off power before installing or working on the device. Risk of Electric Shock – More than one disconnect switch may be required to de-energize the equipment before servicing.**

**The device must not be opened. A faulty device should be returned to the local Siemens sales office or distributor.**

**The device must be mounted and commissioned by a factory trained person. The prevailing safety rules must be observed! Mount in dry locations only!**



**Mounting**

**General description**

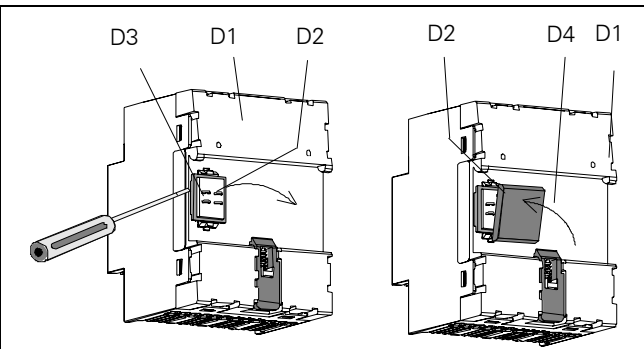
The N-system DIN-rail device can be installed in the instabus EIB lighting control panel, surface or flush mounted, or to any DIN rail in distribution boards, surface or flush mounted, complying with EN 60715-TH35-7,5 that has a data rail installed. The connection to the bus line is established by clicking the device onto the 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.

**Mounting the Power Supply unit N 125 to a DIN-rail**

- Slide the DIN-rail device (B1) onto the DIN-rail (B2) and
- swivel back the DIN-rail device until the slide clicks into place audibly.

**Dismounting DIN-rail devices**

- Remove all connected wires,
- press down the slide (C3) with a screw-driver and
- swivel the DIN-rail device (C1) from the DIN-rail (C2).



**Connection to the bus without data rail**

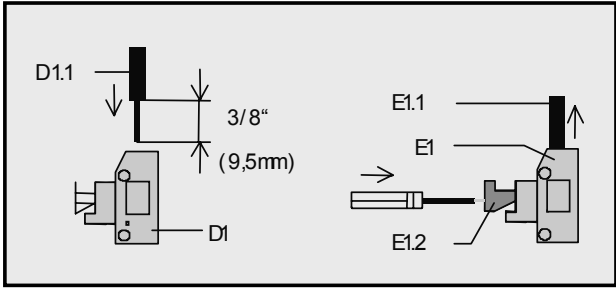
If the connection is established via bus connection block (data rail not installed) the data rail connection system has to be covered with the enclosed insulation hood after removing the guiding hood e.g. with a screw driver to guarantee a sufficient insulation from the DIN rail.

**Removing the guiding top**

- The guiding top (D3) surrounds the contact system (D2) on the back side of the device (D1).
- Insert the screw driver between the DIN-rail device (D1) and the guiding hood (D3) and remove the guiding hood.

**Inserting the insulation top**

- Put the insulation top (D4) onto the contact system and click it into place by a slight pressure.



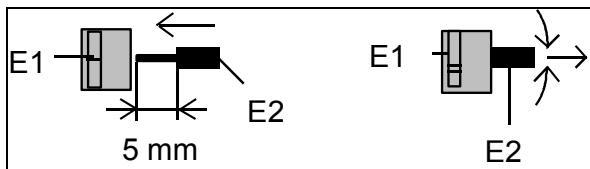
**Wiring**

**Connecting mains**

- Mains is connected via screwless plug-in terminals (D1).
- Remove approx. 3/8" (9,5mm) of insulation from the wire (D1.1) and plug it into the terminal (D1).

**Disconnect mains**

- Press the terminal lock (E1.2) with a screw-driver and
- remove the wire (E1.1) from the terminal (E1).



**Slipping on of the safety extra low voltage block**

- slip the connection block onto the guide slot and
- press the connection block down to the stop

**Connecting the safety extra low voltage block**

- The connection block (E1) can be used with single core conductors Ø 0,6 ... 0,8 mm.
- Remove approx. 5 mm of insulation from the conductor (E2) and plug it into the connection block (E1) (red = +, black = -).

**Disconnecting the safety extra low voltage block**

- Unplug the connection block (E1) and remove the bus cable conductor (E2) while simultaneously wiggling it.