

Roller shutter switch N 523/03
4 x 230 V AC / 6 A

5WG1 523-1AB03

Product and functional description



The roller shutter switch N 523/03 is a DIN rail mounted device in N-system dimensions with a width of 4 module units. Only one AC 230V drive (motor) with electro-mechanical limit switches or with integrated electronics for disconnection at the limit positions can be connected to a channel of the 4-fold roller shutter switch N 523/03. The parallel operation of several drives on one channel requires the intermediate switching of a special relay. Apart from moving the roller shutter into one of the two limit positions, a started movement can also be stopped.

The power supply of the roller shutter switch electronics is carried out via an integrated power supply unit, which is fed via the mains connection L1 for channels A and B. The mains connection of channels C and D is carried out via the connection L2. This enables two channels to be connected to different external conductors. If this is not required, one of the terminals L1 must be linked to one of the terminals L2 via a wiring jumper.

For direct operation (also in the event of communications failure or if EIB communication has not yet been put into operation), four pairs of push buttons are available on the top of the device. For direct operation, both AC 230 V and bus voltage must be applied at the actuator. Moreover, the actuator must be switched to direct operation via the appropriate push button with an LED. In direct operation mode, an output remains switched on as long as the associated push button is pressed. As the direct operation is completely isolated from the bus communication, any active safety alarm or protection mode (for blocking the raising or lowering of the sun/anti-glare protection) is not taken into account.

Application program

The roller shutter switch N 523/03 only works together with the application program 25 A4 Roller shutter switch 980181.

Due to its two 1 bit command objects which are always available per channel, the program enables the movement of a roller shutter into the upper or lower limit position and stopping the movement of the roller shutter. The adjustable period for gradually raising the roller shutter again once it has reached the lower limit position only becomes into effect if the roller shutter has been lowered from the upper limit position without any interruptions.

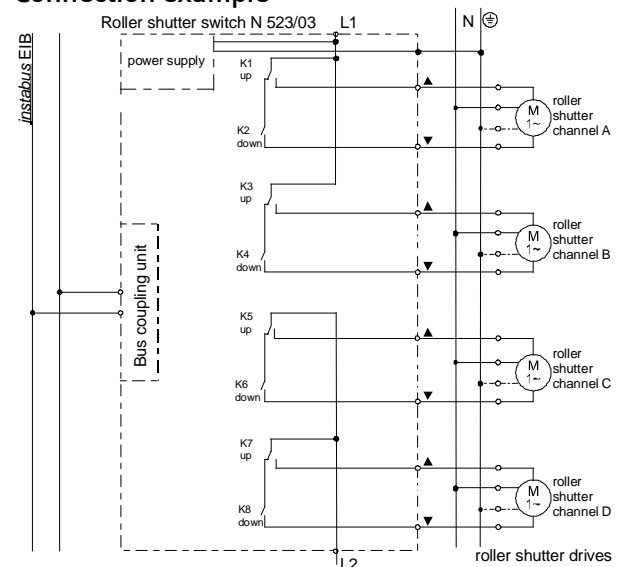
When commissioning the roller shutter switch the following objects can be added to all the channels :

- one object "Move-up blockade On/Off" (required e.g. for cleaning)
- one object "Move-down blockade On/Off" (required e.g. when the terrace door is open)
- two 1 bit objects for saving/restoring two roller shutter positions
- one 8 bit status object (roller shutter position as a percentage value).

In connection with a weather station, in the event of a wind or rain alarm it is ensured via an alarm object that the sun/anti-glare protection is for example raised automatically and that the lowering of it via the EIB is prevented when there is an alarm.

It can further be selected whether the parameterisation is adopted for all the channels or whether each channel should be configured individually.

Connection example



Notes for installation

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.



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- The device must be mounted and commissioned by an authorised electrician.
- When connecting the device, it should be ensured that the device can be isolated.
- The device must not be opened.
- When planning and installing electrical systems, the appropriate guidelines, regulations and specifications of the respective countries must be taken into account.
- In the case of motors with electronic limit switches, the switching points must be adapted on site.

Technical data

Power supply

- Bus voltage: carried out via the bus line
- N 523 electronics: integrated power supply unit 230V AC, +10% / -15%, 50Hz
- Supply voltage for bus: 21V DC to 30V DC

Operating elements

- 1 push button:
for toggling between normal mode / addressing mode
- 1 push button:
for toggling between bus / direct operation
- 4 x 2 push buttons:
for direct operation of the roller shutter drives, independent of the EIB

Display elements

- 1 red LED: for displaying normal mode / addressing mode (off / on)
- 1 yellow LED: for displaying bus / direct operation (off / on)

Inputs/outputs

- Mains connection:
 - 2 x 2-pole (N, L1) (L1 is also the power supply for outputs A and B)
 - 2-pole L2 (power supply for channels C and D)
- 4 load outputs for 4 roller shutters:
 - each 2-pole (UP, DOWN)
 - rated voltage: AC 230 V, 50Hz
 - rated current per relay contact: 6 A (resistive load)
 - Switching cycles: >20,000 at $\cos \varphi = 1$

Connections

- Mains and load circuits
plug-in terminals for mains connections and outputs
Insulation strip length 9... 10 mm
The following conductor cross-sections are permitted:
 - 0.5... 2.5 mm² single-core
 - 0.5... 2.5 mm² finely stranded with connector sleeve
 - 1.5 mm² finely stranded, untreated (max. ampacity 6A).
- Bus line: Pressure contacts on data rail and bus terminal



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When looping through the L and N conductors, it should be noted that the maximum terminal current of 10 A, which is limited by the permitted printed conductor load, may not be exceeded.

Mechanical data

- Housing: plastic
- Dimensions: DIN rail mounted device in N-system dimensions, width: 4 modules (1 module = 18 mm)
- Weight: approx. 260 g
- Fire load: approx. 3600 KJ \pm 10%
- Installation: snap-on fixing onto DIN rail DIN EN 50022-35 x 7.5

Electrical safety

- Degree of pollution (in accordance with IEC 60664-1):2
- Protection type (in accordance with EN 60529): IP 20
- Bus: safety extra-low voltage SELV DC 24 V
- Device complies with EN 50090-2-2 and EN 60669-2-1

EMC requirements

complies with EN 61000-6-1, EN 61000-6-3 and EN 50090-2-2

Environmental conditions

- Ambient operating temperature: - 5 ... + 45 °C
- Storage temperature: - 25 ... + 70 °C

Markings

KNX / EIB

CE mark

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

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Location and function of the display and operating elements

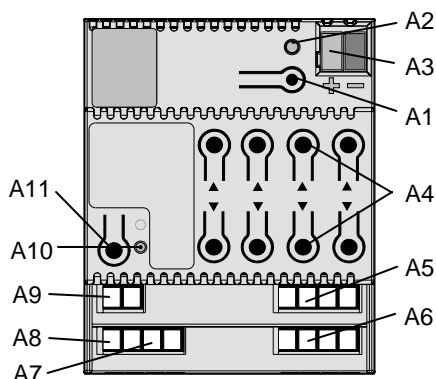


Figure 1: Location of the display and operating elements

- A1 Commissioning button
- A2 Commissioning LED
- A3 Bus terminal
- A4 Buttons for direct operation UP/DOWN of a sunblind
- A5 Terminals for sunblind UP/DOWN (Channel C + D)
- A6 Terminals for sunblind UP/DOWN (Channel A + B)
- A7 Terminals N
- A8 Terminals L1
- A9 Terminals L2
- A10 LED direct operation
- A11 Button for toggling between bus / direct operation

Mounting and wiring

General description

The DIN rail mounted device with N-system dimensions (4 module units) can be inserted in N-system distribution boards, either surface- or flush-mounted, and wherever EN 50022-35 x 7.5 DIN rails are available. The contact with the bus line is carried out via the bus terminals or via the contact system to the data rail.

Assembling the DIN rail mounted device (Figure 2)

- Place the device (B1) on the DIN rail (B2) and
- rotate the device downwards until the slide switch audibly clicks into position.

Dismantling the DIN rail mounted device (Figure 2)

- Remove all the connected cables,
- press the slide switch (C3) down with a screwdriver and
- remove the device (C1) from the DIN rail (C2) with a swivel action.

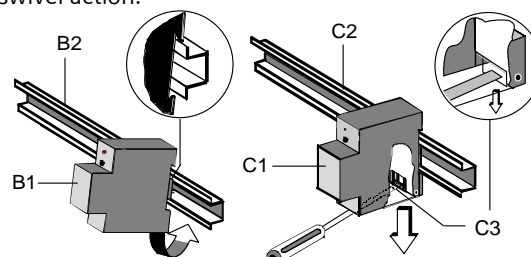


Figure 2: Assembling and dismantling the DIN rail mounted device

Removing the bus terminal (Figure 3)

- The bus terminal is located on the top of the roller shutter switch N 523/03 (D1)
- The bus terminal (D2) consists of two sections (D2.1, D2.2), each with four terminal contacts. Care should be taken not to damage the two test sockets (D2.3) either by accidentally connecting them to the bus conductor or with the screwdriver when attempting to remove the bus terminal.
- Carefully insert the screwdriver in the wire entry slot underneath the bus terminal (D2) and pull the bus terminal forwards out of the roller shutter switch N 523/03 (D1).

Note

When removing the bus terminal, there is a danger of short circuits.

Plugging in the bus terminal (Figure 3)

- Place the bus terminal (D2) in the guide slot and
- press downwards until it reaches the stop.

Connecting the bus cable (Figure 3)

- The bus terminal (D2) is suitable for single-core conductors with 0.6 ... 0.8 mm Ø.
- Strip approx. 5 mm of insulation from the conductor (D2.4) and then plug in the terminal (D2) (red = +, black = -).

Disconnecting the bus cable (Figure 3)

- Remove the bus terminal (D2) and the conductor (D2.4) from the bus cable by rotating them simultaneously backwards and forwards.

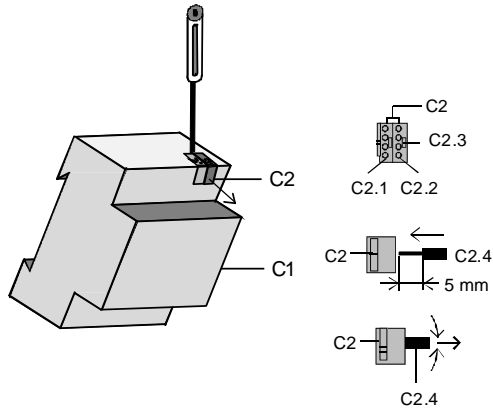


Figure 3: Connecting and removing the cable

Connecting the mains voltage and roller shutter drives

- The connections are carried out with plug-in terminals.
- Strip approx. 9-10 mm of insulation from the conductor and slide into the respective terminal.
- Outputs A and B are supplied via terminal L1 while outputs C and D are supplied via terminal L2. This enables two outputs to be connected to different external conductors. If all the actuator outputs should be connected to the same external conductor, a terminal L1 must be linked to a terminal L2 via a wiring jumper.

Cross-sections:

- The following conductor cross-sections are permitted:
 - 2 x 0.5... 2.5mm² single-core or 2 x 0.5... 1.5mm² finely stranded with connector sleeve
- Each of the mains connections L1 and L2 must be fused with a miniature circuit breaker of characteristic B or C with a max. nominal current of 10 A.

Mounting the insulating cap

If the device should be mounted on a DIN rail without an data rail, the contact system must be covered with the supplied insulating cap.

Removing the locating clamp: (Figure 4)

- The locating clamp (D3) encloses the contact system (D2) on the rear of the roller shutter switch (D1).
- Insert the screwdriver between the DIN rail mounted device (D1) and the locating clamp (D3) and remove the clamp.

Clipping on the insulating cap: (Figure 4)

Place the insulating cap (D4) on the contact system and press so that it snaps in place.

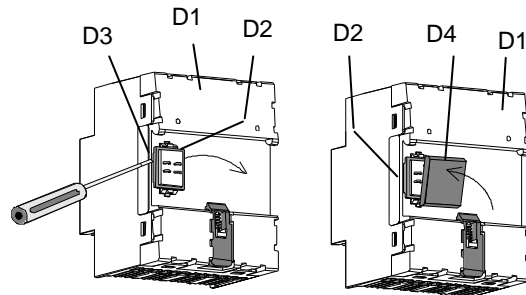
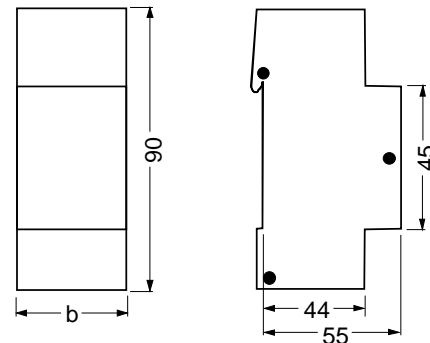


Figure 4: Covering the contact system

Dimension drawing

Dimensions in mm



b = 4 module units

1 module unit = 18 mm

General notes

- Any faulty devices should be returned to the local Siemens office.
- Should you have any additional queries, please contact our Technical Support department:

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