SIEMENS

instabus EIB

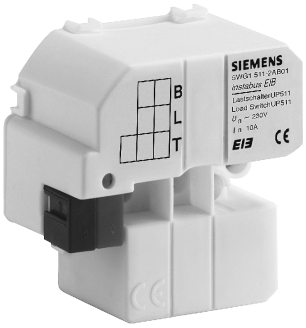
Technical Product Information

April 2003

Load Switch UP 511
1 x 230 V / 16 A

5WG1 511-2AB01

Product and Applications Description



The load switch UP 511 is a switching actuator which is - due to its small size - suitable for mounting in box mounts in walls or ceilings. It can switch groups of luminaires or other electric loads by its relay output.

The load switch is built into box mounts (60 mm Ø, 60 mm deep) by screw mounting and is connected with the bus line by screwless plug-in blocks.

Appropriate application programs are available for the different tasks the load switch UP 511 can handle; e.g. for direct on and off switching, time switch (non-delayed on, delayed off) or delayed on/off switching.

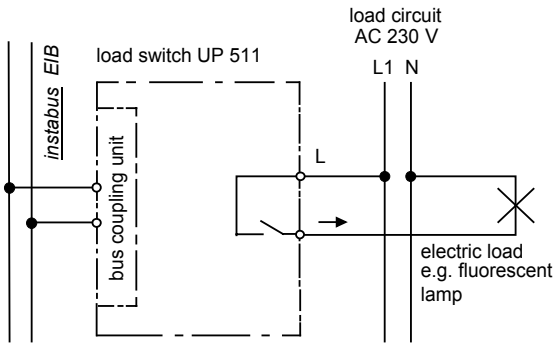
Each of the outputs can be assigned various tasks depending on the application program used, i.e. the load switch UP 511 consists of the device (hardware) and its application programs (software).

With the ETS (*EIB* Tool Software) the application program is selected, its parameters and addresses are assigned appropriately, and downloaded to the load switch UP 511.

Application programs

12 A1 Binary 510D01
- logical operation (AND/OR)
- lock-out available
- timer functions (on/off switching delay) available
- staircase light function available
- safety modes available
- state object available

Example of Operation



Installation Instructions

- The device may be used for permanent interior installations in dry locations within box mounts.

WARNING

- The device must be mounted and commissioned by an authorised electrician.
- A safety disconnection of the device must be possible.
- The device may be mounted to switch and socket combination box mounts if VDE-certified devices are used exclusively.
- The prevailing safety rules must be heeded.
- The device must not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.

Technical Specifications

Power supply
via the bus line

Outputs
- number: 1 outputs (volt free contacts)
- rated voltage: AC 230 V, 47 ... 63 Hz
- rated current: 0,5...16 A resistive load
- switching current at AC 230 V:
  max. 10 A inductive load, cos φ = 0,6
- switching current at DC:
  - DC 12...50 V: max. 16 A resistive load
  - DC 230 V: max. 1 A resistive load
- switching cycles: max. 10 per minute at nominal load
- switching characteristic: set in parameter list according to application program

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Operator 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,
  - 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 2,5 mm² plain 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
- bus line, screwless bus connection block
  - Ø 0,6 ... 0,8 mm single core
    remove approx. 5mm of isolation

Physical specifications
- housing: plastic
- dimensions: 50 x 50 x 30 mm (W x H x D)
- weight: approx. 55 g
- fire load: approx. 1850 kJ ±10%
- installation:
  mount to box mounts Ø 60 mm, 60 mm deep

Electrical safety
- degree of pollution (according to IEC 60664-1): 2
- protection (according to EN 60529): IP 20
- overvoltage class (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 and EN 60669-2-1

Reliability
- 50.000 switching cycles at AC 230 V 16 A, cos φ = 1
- 25.000 switching cycles for halogen lamp loads 2000 W
- 25.000 switching cycles for fluorescent lamp loads parallel corrected 1500 VA

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

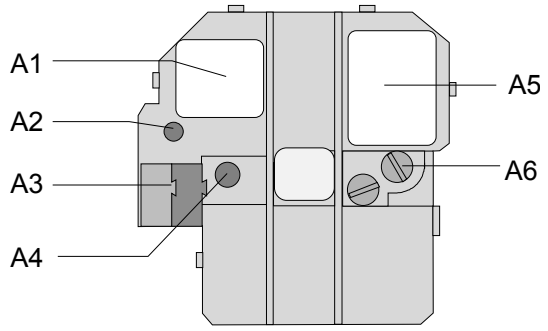

Figure 1: Location of the display and operator elements

A1 Label for noting the physical address
A2 LED for indicating normal operate mode (LED off) or addressing mode (LED on); returns to normal operating mode automatically after receiving the physical address
A3 Bus connection block for single core conductors with 0,6...0,8 mm Ø
A4 Learning button for switching between normal operating mode and addressing mode and for receiving the physical address
A5 Type label
A6 Screw blocks for connecting the load circuit

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Mounting and Wiring

General description
The load switch UP 511 is used for various tasks and can be - due to its small size - built into box mounts with a diameter of 60 mm mounted on walls or ceilings (according to DIN 49073 B-design). It is connected to the bus line via the bus connection block 193 (screwless plug-in connection blocks for single core conductors). The relay output and the mains supply are connected via two screw blocks.

Note

Take care that a minimum distance between the low voltage wires and the bus wires of 4 mm is kept when connecting the 230 V mains voltage and the bus voltage.

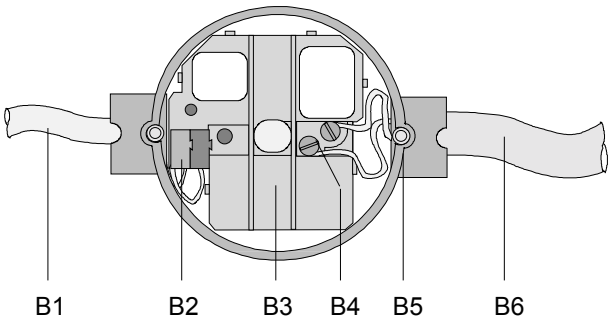

Figure 2: Mounting the load switch UP 511

B1 bus line
B2 bus connection blocks
B3 load switch UP 511
B4 connection blocks load circuit
B5 box mount (60 mm Ø according to DIN 49073)
B6 branch line of load circuits

Slipping off / on bus connection blocks (figure 3)
- The bus connection block (C2) is situated at the top of the load switch UP 511 (C3). It consists of two components (C2.1 and C2.2) with four terminal contacts each. Take care not to damage the two test sockets (C2.3) by accidentally connecting them to the bus cable or with the screw-driver (e.g. when attempting to unplug the bus connection block).

Slipping off bus connection blocks (figure 3)
- Carefully put the screw-driver to the wire-inserting slit of the bus connection block's grey component (C2.2) and pull the bus connection block (C2) from the load switch (C1).

Note

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

Connecting bus cables (figure 3)
- The bus connection block (C2) can be used with single core conductors 0,6 ... 0,8 mm Ø.
- Remove the end of the insulation of the conductor (C2.4) and plug the wire into the connection block (C2) (red = +, grey = -).

Slipping on bus connection blocks (figure 3)
- Slip the bus connection block (C2) onto the guide slot of the load switch (C1) and press the bus connection block down to the stop.

Disconnecting bus cables (figure 3)
- Unplug the bus connection block (C2) and remove the bus cable conductor (C2.4) while simultaneously wiggling it.

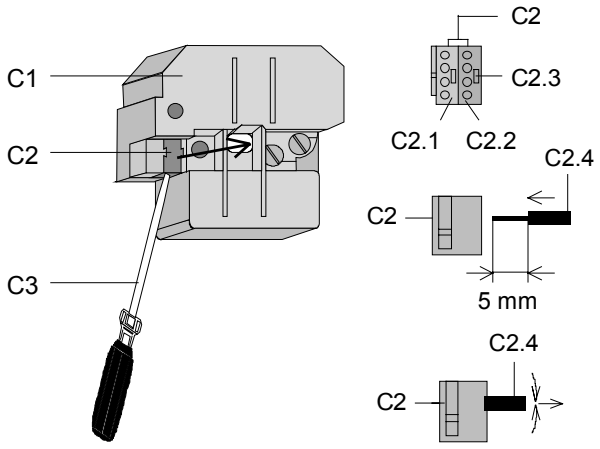

Figure 3: Connecting/disconnecting bus cables

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Connecting load circuits (Figure 4)
- The load circuit is connected to screwless plug-in connection blocks (D1).
- Remove approx. 9...10 mm of insulation from the wire (D1.1), plug it into the connection block (D1).

Conductor cross sections:
- load circuit, physical:
  strip insulation for 9 ... 10 mm
  permissible conductor types/cross sections:
  - 0,5 ... 2,5 mm² single core or flexible conductor,
  - 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

Disconnecting load circuits (Figure 4)
- Press the screw-driver onto the interlocking (E1.2) of the connection block (E1) and
- slip the conductor (E1.1) out of the connection block (E1).

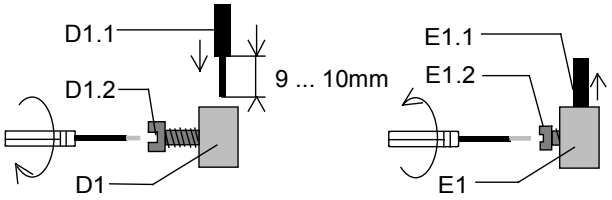
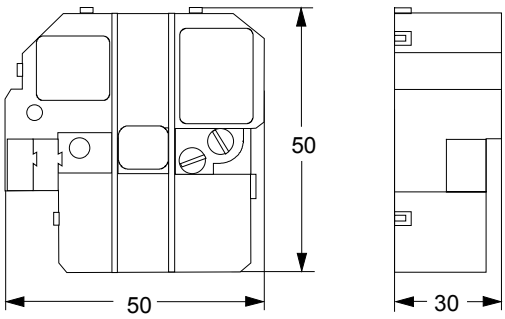


Figure 4: Connecting/disconnecting cables

Dimensions diagram

Dimensions in mm



General Notes

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

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