SIEMENS

Binary Input RL 260/23	5WG1 260-4AB23

Product and function description

The RL 260/23 binary input is a KNX device with four binary input channels. The device is installed in an AP 118 Control Module Box or an AP 641 Room Control Box. The bus is connected via a bus terminal block. The device electronics are supplied via the bus voltage.

The device enables both statuses (contact is opened or closed respectively voltage is applied or not) and changes in status (contact is being opened or closed respectively voltage is rising or falling) to be recorded, as well as voltage impulses. It can therefore be used, for example, to monitor voltages, to record circuit or operating states (whether a miniature circuit-breaker or a residual-current circuit-breaker has been released, a plant is switched on or off, a malfunction or an alarm is being signalled), to record the change of status when switching on or switching off a voltage (whether a switch or a pushbutton was activated, whether it was activated for a shorter or longer period, whether the voltage was switched on or off due to the activation) and to record and count voltage pulses with a minimum voltage on-time of 110 ms and a max. pulse succession of up to 4 pulses per second, without or with monitoring of the number of pulses counted until a predetermined threshold has been reached or exceeded.

The RL 260/23 binary input supports a multitude of applications and enables one of the following functions to be assigned to every input:
- Switching status / binary value transmission
- Switching, edge-triggered
- Switching, short / long operation
- 1-button dimming
- 1-button solar protection control
- 1-button group control (sequence control)
- 1-bit Scene control
- 8-bit Scene control
- 8-bit value, edge-triggered
- 8-bit value, short / long operation
- 16-bit floating point value, edge-triggered

- 16-bit floating point value, short / long operation
- 8-bit pulse counting without threshold check
- 8-bit pulse counting with threshold check
- 16-bit pulse counting without threshold check
- 16-bit pulse counting with threshold check
- 32-bit pulse counting without threshold check
- 32-bit pulse counting with threshold check.

Two consecutive channels (A and B resp. C and D) that were configured as a pair of inputs can be configured for one of these functions:
- Dual-button dimming with stop telegram
- Dual-button control of solar protection

The device is configured and commissioned with the ETS (Engineering Tool Software) version ETS3 v3.0f or later.

Application programs
The UP 510/03 Binary output (relay) needs the application program
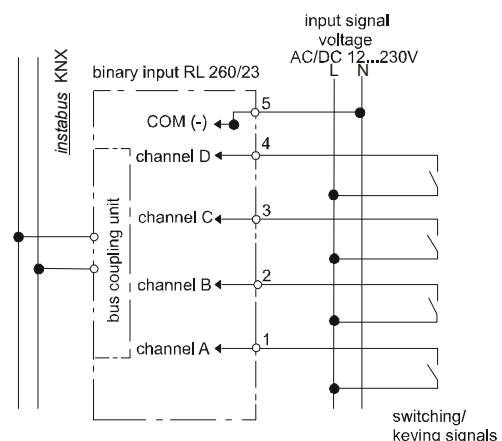"07 B0 S4 On-off-toggle/Dim/Shu/Value/Cycl 983101".

Example of operation

figure 1: Example of operation

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Technical product-information

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Installation notes

- The device is intended for installation in an AP 118 Control Module Box or an AP 641 Room Control Box.

⚠ **DANGER**

- The device must be mounted and commissioned by an authorized electrician.
- A safety disconnection of the device must be possible.
- 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.
- **When looping through the L-conductor, take care that the maximum permissible terminal load current of 16A is not exceeded!**

Technical Data

Power supply
- via the bus line
- KNX bus voltage: DC 24V (DC 21...30V) via KNX/EIB bus line
- KNX bus current: < 10 mA

Inputs
- 4 inputs, AC/DC 12 ... 230V
- Max. length of connecting cable: 100 m

Control elements
1 learning button:
for switching between normal operating mode and addressing mode

Display elements
1 red LED:
for monitoring bus voltage and for displaying normal mode/addressing mode

Connections
- Bus line : screwless bus connection block (red-black) 0.6...0.8 mm Ø single core, strip insulation 5mm
- Binary inputs: screwless terminals 0.5 ... 2.5mm² single-core, stranded or multi-core, untreated, strip insulation 9 ... 10mm

Physical specifications
- housing: plastic
- Dimensions (L x W x D): 86,5 x 47,8 x 36,2 mm
- weight: approx.60 g
- fire load: approx. 800 kJ
- Installation: Mounting location for RS / RL module in AP 118 Control Module Box (5WG1 118-4AB01) or AP 641 Room Control Box (5WG1 641-3AB01)
- Thermal dissipation loss:
  Device: 0,15 W (= min. total thermal dissipation loss)
  per input, DC: $(0,39 / 230V) * U_{DC}$ [W]
  per input, AC: $(0,22 / 230V) * U_{AC}$ [W]
  min. total thermal dissipation loss: 0,15 W
  max. total thermal dissipation loss: 1,71 W

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
- Device complies with: EN 50428

Electromagnetic compatibility
complies with EN 50428

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 %

Reliability
- Failure rate: 279 fit at 40°C

Markings
KNX, _EIB_

CE norm
- complies with the EMC regulations (residential and functional buildings), low voltage regulations

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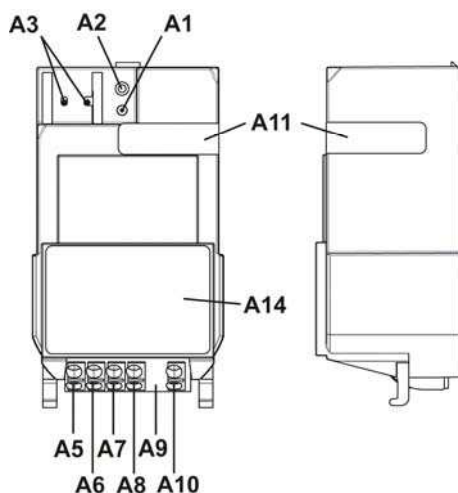## Location / Function of the Display and Operating Elements

figure 2: Location / function of the display and operating elements

A1 LED for indicating normal operating mode (LED off) or addressing mode (LED on); returns to normal operating mode automatically after receiving the physical address

A2 Learning button for switching between normal operating mode and addressing mode and for receiving the physical address

A3 Bus connection block for single core conductors with 0,6...0,8 mm Ø

A4 Type label (with space for physical address of the actuator)

A5 Terminal Input A

A6 Terminal Input B

A7 Terminal Input C

A8 Terminal Input D

A9 Distance plate C

A10 Terminal Ground

A11 Identification number of the device

Mounting and Connecting

B2 RL module

B3 Type label

B4 Mounting location for RS / RL module in AP 118 Control Module Box or AP 641 Room Control Box

B8 Learning button

B9 LED for indicating normal operating or addressing mode

B10 Bus connection pins of the connection module for respective bus terminal block of the internal bus wire

B11 Insertion point for bus terminal

B12 Bus connection block

B13 Hinge joint for mounting hinge of the RL module

B14 Terminals

- Mounting of an RL module:

- Remove the lid of the AP 118 Control Module Box respectively of the AP 641 Room Control Box.

- AP 641: Remove the SELV (Class 2) cover

- Insert the RL module (B2) into the hinge (B13) of the mounting location (B4). The terminals (B14) point away from the insertion point for the bus terminal (B11). The type label (B3) is on top.

- Swivel the RL module (B2) down until it audibly snaps into the mounting location (B4).

- Insert the bus terminal (B12) of the mounting location (B4) onto the bus connection pins (B10) of the RL module (B2).

- For assignment of the Physical Address press the learning button (B8) for a maximum of 2 seconds. The addressing mode is indicated when the LED is on (B9). It returns to normal operating mode (LED Off) automatically after receiving the physical address.

- AP641: Insert the SELV (Class 2) cover again.
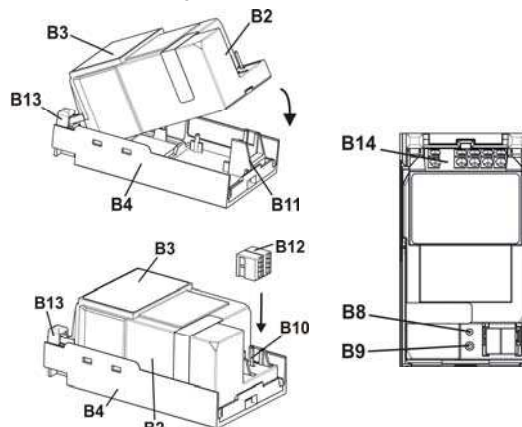
- Mount the lid again.

figure 3: Mounting of an RL module

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- Dismounting an RL module:
- Remove the lid of the AP 118 Control Module Box respectively of the AP 641 Room Control Box.
- AP 641: Remove the SELV (Class 2) cover
- Remove the wiring from the terminals (B14).
- Remove the bus terminal (B12).
- To remove the RL module (B2), insert a screw driver between the module and the mounting location on the bus terminal side and push it up to release it from the snap-in hooks.
- Swivel the RL module (B2) up, pull it down out of the hinge (B13) and remove it from the mounting location (B4).
- AP641: Insert the SELV (Class 2) cover again.
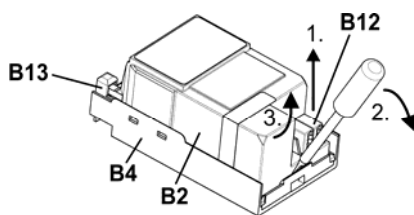- Mount the lid again.

figure 4: Dismounting an RL module

Connecting

Slipping off/on bus connection blocks

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
- Carefully put the screw driver to the wire insertion slit of the bus connection block's grey component (C2.2) and
- pull the bus connection block (C2) from the module.

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
- Slip the bus connection block (C2) onto the guide slot of the module and
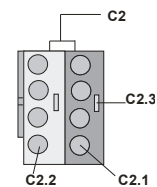- press the bus connection block (C2) down to the stop.

figure 5: Slipping off/on bus connection blocks

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Connecting bus cables
- The bus connection block (D2) can be used with single core conductors Ø 0.6...0.8 mm.
- Remove approx. 5 mm of insulation from the conductor (D1) and plug it into the bus connection block (D2) (red = +, grey = -)

Disconnecting bus cables
- Unplug the bus connection block (D2) and remove the bus cable conductor (D1) while simultaneously wiggling it.
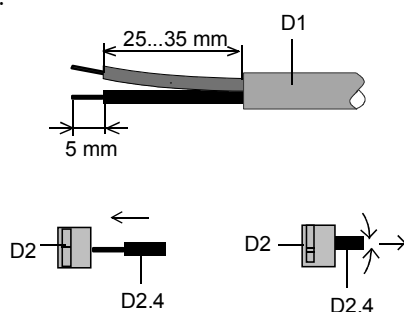
figure 6: Connecting / disconnecting bus cables

Connecting/disconnecting mains and load circuit:

Connect wires
- The load circuits are connected via screwless plug-in terminals (E1).
- Remove approx. 9...10 mm of insulation from the wire (E 1.1) and plug it into the terminal (E1).
- The terminals are designed for connection of two wires allowing to loop through the terminal block.
Note:
The maximum permissible terminal load current is 16A.

Remove wires
- Press the terminal interlocking of the terminal (F1) with a screw-driver and remove the wire (F2) from the terminal (F1).
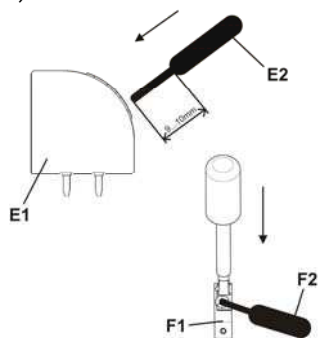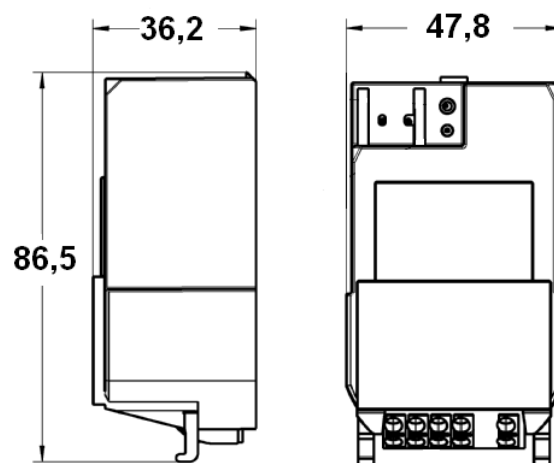
figure 7: Connecting/disconnecting mains and load circuit

Dimension drawing

Dimensions in mm

General Notes

- The operating instructions must be handed over to the client.
- A faulty device shall be returned with a Return Good Note for Service provided by the appropriate Siemens sales office.
- If you have further questions concerning the product please contact our technical support.
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- 📠 +49 (911) 895-7223
- ✉ support.automation@siemens.com
- www.siemens.com/automation/support-request

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