Binary Input wave AP 261 **5WG3 261-3AB11**

Product and Applications Description

The binary input wave AP 261 (Diagram A) is a surface-mounted radio-controlled sensor. Besides the integrated reed contact it is also possible to connect and monitor an external contact. The difference between the binary input wave AP 261 and the door/window contact wave AP 260 is that the binary input transmits ON/OFF switching commands instead of Door/Window Open/Closed messages as the door/window contact does. With these switching commands all switchable radio-controlled actuators can be controlled such as switch inserts sys or universal dimmer inserts sys in connection with push buttons wave UP 210 as well as the transmitter actuator 230V wave UP 560. Thus the opening and closing of a door can be used e.g. for lighting control.
The binary input sends a switching command OFF when the internal or external contact becomes closed and a switching command ON when the contacts become opened. The internal contact is closed if the distance between the sensor (A3) and the magnet (A4) is $\leq$ 10 mm.

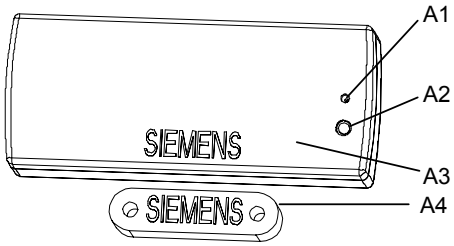


Diagram A

The binary input is supplied with power from a lithium battery (1/2 AA 3.6V) which is provided with the device. This battery is rated so that it is only necessary to replace it approx. every 5 years, even with up to 50 changes in the switching state per day. If the battery has to be replaced, this is indicated by the LED (A1) flashing every 10 s. The battery must then be replaced within a month.

The commissioning of the binary input is carried out without any additional tools via a push button located at the front of the device (A2).

The binary input wave AP 261 has two different operation modes:

Normal function
- Transmitting switching commands via radio
- Reporting the battery status every 24 hours

Special function
- Establishing connections with other radio- controlled components
- Deleting connections with other radio-controlled components

Operation

Once the binary input wave has been installed and commissioned, a switching telegram is sent each time the integrated contact or a connected external contact is opened and closed. Each switching telegram is sent twice with an interval of one second in order to increase the reliability of the transmission. To indicate the sending of a radio telegram, the LED (A1) lights up briefly.

Technical Specifications

Frequency band
868 MHz (transmission is not susceptible to interference; frequency band reserved for system and security applications)

Range of radio control
approx. 100 m (In free field applications)

Power supply
lithium battery 1/2 AA 3.6V (e.g. Sonnenschein, type SL-750), battery operation time approx. 5 years

Connections
4 plug-in terminals for wire ranges between 0.14 and 0.5 mm^2, single-core or finely-stranded; for setting whether an external contact is to be connected as well as for the connection of an external contact.

Mechanical specifications
- Housing: plastic
- Dimensions (L x W x H): sensor: 87x36x27 mm
  magnet: 40x10x10 mm
- Weight of sensor: approx. 65g (with battery)
- Fire load: approx. 800kJ
- Mounting: fixed with adhesive or screws

Binary Input wave AP 261 **5WG3 261-3AB11**

Electrical safety
- Pollution degree (according to IEC 60664-1): 2
- Protection (according to EN 60529): IP 20
- Overvoltage category (according to IEC 60664-1): III
- Device complies with EN 60669-2-1 and IEC 60664-1

Electromagnetic compatibility
complies with EN 301489, EN 300220

Environmental specifications
- Climatic conditions: EN 50090-2-2
- Ambient operating temperature: - 5 ... + 45°C
- Storage temperature: - 25 ... + 70°C
- Relative humidity (non-condensing): 5% to 93%

Certification
complies with KNX - standard
- radio frequency rf
- easy mode push button EP

CE norm
complies with the EMC regulations (residential buildings),
low voltage regulations and R&TTE regulations:

CE

The CE declaration can be inspected at:
SIEMENS AG
Siemensstraße 10
93055 Regensburg

Installation Instructions

Caution:
- The device may be used for interior installations and in dry rooms only.
- The device may not be opened for warranty reasons.
- Occasionally the transmission range may be influenced by structural conditions (e.g. reinforced concrete) or electric / electronic sources of interference.
- A minimum distance of 1 m must be maintained between the binary input wave and the relevant receivers.
- Although the radio transmission is carried out in the safe 868 MHz range, disruptions to the radio transmission cannot be excluded.
- This product is not suitable for security applications in professional alarm systems.

Mounting

It is advisable to attach the radio-controlled sensor to the fixed door/window frame and to attach the magnet to the movable door or window. The mounting plate (B2) of the binary input (B1) as well as the magnet (B3) can be fixed using the supplied adhesive strips or with screws if necessary. When using the adhesive strips the ground must be clean and non-greasy. It should be ensured that the SIEMENS markings on the mounting plate and magnet lie on top of each other as much as possible (Diagram B) and that the distance (gap) between the mounting plate and the magnet is at least 3 mm but does not exceed 10 mm. With the magnet at this distance from the binary input, the internal reed contact is closed.

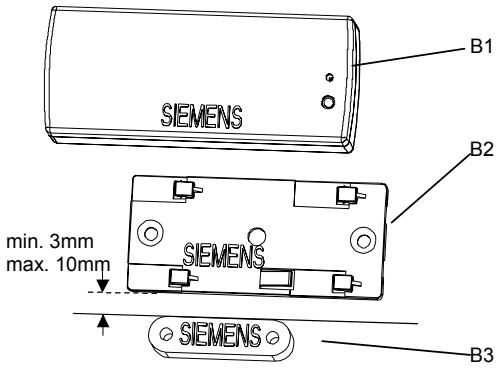


Diagram B

Before clipping the radio-controlled sensor onto the mounting plate, the insulating strip (C4) that is inserted in the battery compartment (C1) on the back of the sensor must be removed and if necessary an external contact should be connected.

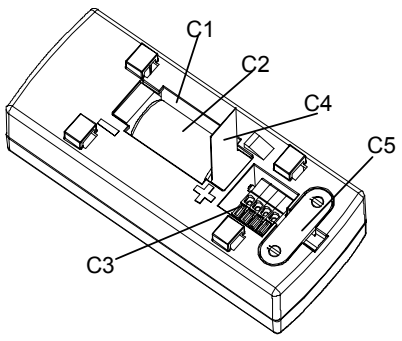


Diagram C

Binary Input wave AP 261 **5WG3 261-3AB11**

First the radio-controlled sensor (D1), as shown in Diagram D, must be placed onto the mounting plate (D2). You should then slide it in the direction of the arrow until the clamps (D3) click into place.

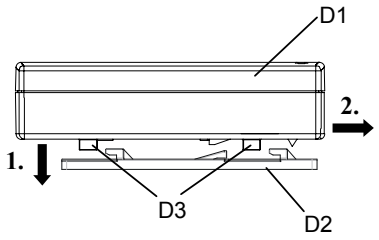
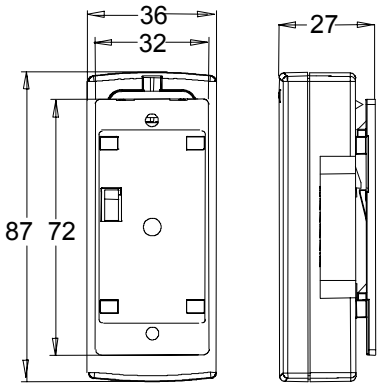


Diagram D

Dimension Diagram

Dimensions in mm



Connection of an External Contact

An external contact can be connected to the binary input wave via plug-in terminals (C3) on the rear of the radio-controlled sensor. The external contact can be connected electrically in series with the reed contact in the radio-controlled sensor or can be used on its own.

Note: Due to the low voltage and low current levels that are used for the contact surveillance (to ensure a long battery life time), only encapsulated contacts as those of reed relays or measuring relays should be used.

Use internal contact only
Diagram E1 indicates the plug-in terminals of the binary input in the supplied state. It has been set via the wire jumper between terminals 3 and 4 that only the internal contact is used.

Use external contact only
Diagram E2 indicates the terminal assignment when only an external contact should be used. The internal contact has been deactivated via the wire jumper between terminals 1 and 2.

Use internal and external contact
Diagram E3 indicates the terminal assignment if the internal and an external contact should be used together. The wire jumper is omitted in this case.

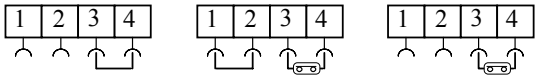


Diagram E1 Diagram E2 Diagram E3

Strain relief
The cable can be fixed to the external contact via the supplied clamping plate (C5). The maximum permitted diameter of the connecting cable is 5 mm.

Note: The binary input sends a switching command OFF when the internal contact or an external contact is closed and an ON switching command when they are opened.

Location and Function of the Display and Operating Elements

Diagram A
- A1 LED for displaying the sending of a radio telegram, the link with other radio-controlled components and a low battery
- A2 Push button for linking the binary input with other radio-controlled components

Diagram C
- C1 Battery compartment
- C2 Battery
- C3 Plug-in terminals for setting whether an external contact should be used as well as for the connection of an external contact

Commissioning

Note
When commissioning a binary input wave, it must be linked via “learning telegrams” to the KNX radio-controlled devices which should process its radio telegrams. Only those radio-controlled devices which are able to process a switching command (ON/OFF) can be connected to a binary input. These devices are e.g. a universal dimmer insert sys or a switch insert sys in con-

Binary Input wave AP 261 **5WG3 261-3AB11**

nection with a push button wave, the transmitter actuator 230V wave and the Touch-Manager wave.

Connection via radio
To link (teach in) a binary input wave (F1) to an actuator such as a universal dimmer insert sys in connection with a push button wave (F2) or a Touch-Manager wave (G3), the actuator must first be switched to the special function “learning mode” (refer to the commissioning instructions of the device).

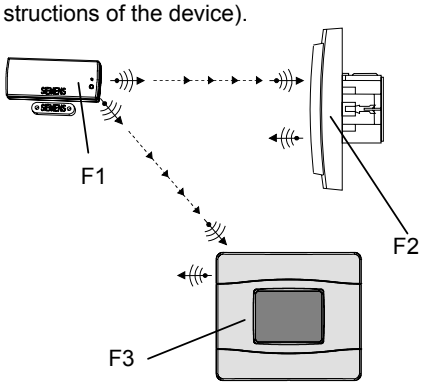


Diagram F

The push button (A2) on the binary input must then be pressed for approx. 1 s. The LED (A1) flashes for approx. 3 s if the learning telegrams have been sent.

It can now be tested by opening and closing the internal contact with the magnet or by operating the external contact whether the binary input sends a radio telegram each time (LED A1 lights up briefly) and whether the radio telegrams have been received and processed correctly by the devices that are linked via radio.

Deleting a link
If a taught-in device should no longer react to this binary input, the radio connection should be deleted i.e. re-taught. When deleting a link, the same process is followed as for the connection.

Replacing the Battery

The LED (A1) indicates that the battery needs to be replaced by flashing briefly every 10 s. In order to be able to replace the battery, the radio-controlled sensor must be removed from its mounting plate. To do so, the lug (G3) must be pressed down with a tool (e.g. a small screwdriver (G4)) in the gap between the radio-controlled sensor (G1) and the mounting plate (G2). You should then slide the radio-controlled sensor (G1) to the left over the lug and out of its clamps (G5).

The battery compartment (C1) is located on the underside of the radio-controlled sensor. Its housing does not need to be opened to replace the battery. The correct polarity should be observed when replacing the battery.

The used battery must be disposed of in accordance with the applicable regulations.

Once the battery has been replaced, the radio-controlled sensor must be placed onto the mounting plate again, as shown in Diagram G.

Finally, it should be tested by opening and closing the internal contact with the magnet or by operating the external contact whether the binary input sends a radio telegrams each time (LED A1 lights up briefly) and whether the radio telegrams have been received and processed correctly by the devices linked via radio. The LED (A1) should also have stopped flashing at cyclic intervals to indicate that the battery is low.

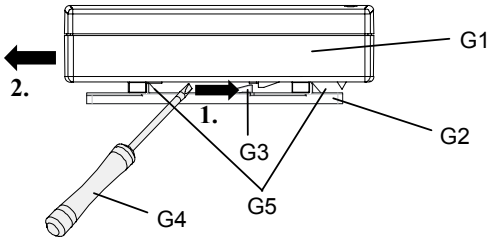


Diagram G

General Notes

- The operating instructions should be handed over to the customer.
- Any faulty devices should be returned to the local SIEMENS office.
- Should you have any further queries about this product, please contact our Technical Support Department:

☏ +49 (0) 180 50 50-222
🖷 +49 (0) 180 50 50-223
✉ adsupport@siemens.com
❒ www.siemens.de/automation/support-request