

Transmitter Actuator 230V wave UP 560

5WG3 560-2AB01

Product- and Application Description



Diagram A

The transmitter actuator 230V wave UP 560 (Diagram A) is a flush-mounted device with radio communication for switching electrical loads. It is possible to connect a 1-fold or 2-fold *instabus* push button (to be ordered separately) or a motion detector (in development) via a 10-pin plug-in connector. Via the push button rocker(s) of a plug-in *instabus* push button, it is possible to operate the integrated actuator locally and to operate as well other radio controlled actuators via remote control. Scenes can also be stored in the actuators and retrieved.

The transmitter actuator 230V wave is connected to the 230V network and supplied with current via an integrated power supply unit. The actuator can be controlled both locally and via radio. The connected load is switched via a relay contact, whereby it can be set whether the load should be permanently switched on or off (normal operation) or whether the actuator should operate in time switch mode, with an adjustable operating time of 1, 5 or 15 minutes.

When the operator interface is removed, the commissioning of the transmitter actuator 230V wave can be carried out without any special tools via the six DIL switches located at the front of the device (Easy mode Push Button: EP).

There are two different operation modes for the transmitter actuator 230V wave:

Normal function

- With an *instabus* push button: local operation of the integrated switch actuator, operation of other actuators that are linked via radio, storing and retrieving of scenes.
- With motion detector: control of the integrated switch actuator as well as reporting detected movements to other devices that are linked via radio.

Special function

- Establishing connections to its own actuator and to other radio-controlled components.
- Deleting connections to its own actuator and to other radio-controlled components.

Operation

The 1-fold or 2-fold *instabus* push button placed on the transmitter actuator 230V wave can be operated at the TOP or BOTTOM. The exact operational functionality depends on the devices connected via radio control: switching, dimming, shutter control or scene function.

Switching (Actions shorter than 0.4s):

- | | |
|--------|--|
| TOP | In connection with a switch actuator: ON;
in connection with a dimmer: switching on with saved memory value |
| BOTTOM | OFF |

Dimming (Actions longer than 0.4s):

- | | |
|--------|---|
| TOP | Dimming BRIGHTER up to max. light intensity |
| BOTTOM | Dimming DARKER down to min. light intensity |

Shutter STEP command (Actions shorter than 0.4s):

- | | |
|--------|------------------------------|
| TOP | STOP/OPEN slats (by 1 step) |
| BOTTOM | STOP/CLOSE slats (by 1 step) |

Shutter UP/DOWN command (Actions longer than 0.4s):

- | | |
|--------|--------------|
| TOP | UP command |
| BOTTOM | DOWN command |

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Scene function:

Preselected states for the lighting (ON or OFF or any brightness value) and the shutters (UP or DOWN) can be saved in a scene and reset via a push button action. Up to four scenes can be saved and retrieved with the transmitter actuator 230V wave. If a 1-fold *instabus* push button is used, scenes 1 and 2 are operated via the rocker. If a 2-fold *instabus* push button is used, scenes 1 and 2 are operated via the left rocker and scenes 3 and 4 are operated via the right rocker.

Before saving a scene, each switch, dimmer and shutter control insert sys or radio-controlled actuator that is linked via radio must be set to the state to be stored:

- Switch actuator: ON or OFF
- Dimmer: Desired light intensity value
- Shutter: TOP or BOTTOM (limit position)

a) Saving scenes (Actions longer than 3s):

When saving a scene, each connected actuator saves the current state under the activated scene number.

TOP	Saves scene 1 (or scene 3 when operating the right rocker of the 2-fold push button)
BOTTOM	Saves scene 2 (or scene 4 when operating the right rocker of the 2-fold push button)

b) Retrieving scenes (Actions shorter than 0.4s).

When retrieving a scene, each connected actuator is set to the state that has been stored under this scene number.

TOP	Retrieves scene 1 (or scene 3 when operating the right rocker of the 2-fold push button)
BOTTOM	Retrieves scene 2 (or scene 4 when operating the right rocker of the 2-fold push button)

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 (applying to free field applications)

Power supply

via the 230V mains connection,
rated voltage: AC 230V, 50Hz
Fusing required via 10A circuit-breaker with characteristic B or C

Outputs

- Number: 1 (Relay contact)
- Rated voltage: AC 230V,
- Rated current: 6A, $\cos \phi = 1$
- Rated load:

- Incandescent lamps:	1000 W
- LV halogen with conv. transformer:	500 VA
- LV Halogen with electron. transf.:	600 VA
- Fluorescent lamps with elect. ballast:	150 VA

Connections

- 3 screw terminals for mains and load connection;
Insulation strip length: approx. 5 mm
The following conductors are permitted per screw terminal:
 - two solid conductors 0.5 to 1.5 mm²
 - one solid or finely-stranded conductor 0.5 to 2.5 mm²
- 10-pole socket connector for the connection of a 1-fold or 2-fold *instabus* push button

Mechanical specifications

- Housing: plastic
- Dimensions:
 - Spacer units: 71 x 71 mm
 - Mounting depth: 32 mm
- Weight: approx. 70 g
- Fire load: approx. 1000 kJ
- Mounting: inserted in box mounts according to DIN 49073-1, \varnothing 60 mm, min. depth 40 mm

Electrical safety

- Pollution degree (acc. to IEC 60664-1): 2
- Protection (acc. to EN 60529): IP 20
- Overvoltage category (acc. to IEC 60664-1): III
- Device complies with EN 60669-2-1

Electromagnetic compatibility

complies with EN 300220, EN 301489, EN 60669-2-1

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%

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Certification

complies with **KNX** - standard

- radio frequency rf
- easy mode push button **EP**

CE norm

complies with the EMC regulations, low voltage regulations and R&TTE regulations:



SIEMENS AG hereby states that the transmitter actuator 230V wave UP 560 is in compliance with the basic requirements and the other relevant provisions of Regulation 1999/5/EC.

The CE declaration can be inspected at:

SIEMENS AG
 Siemensstraße 10
 93055 Regensburg

Installation instructions

Notice:

- The installation of the device into metal walls has to be avoided since this reduces the range of radio control.
- 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 transmitter and the relevant receivers.
- Though the radio transmission is carried out in the safe 868 MHz range, disruptions to the radio transmission cannot be excluded.
- The used radio transmission is not suitable for security applications.

⚠ DANGER

- The device may be used for interior installations and in dry rooms only.
- The device must be mounted and commissioned by an authorised electrician.
- The device must not be opened.
- The device may be mounted in switch and socket combination box mounts provided that only VDE-certified devices are used.
- The prevailing safety and accident regulations must be observed.

Mounting

The transmitter actuator 230V wave is connected to the mains cable (L and N conductor) (**Diagram B**) and inserted in a boxmount (Ø 60 mm and 40 mm depth) using screw or claw fixing. A 1-fold or 2-fold *instabus* push button or a motion detector with the relevant frame (ordered separately) is placed on the transmitter actuator 230V wave with guide and mounting clamps (**Diagram C**).

Connection to the mains cable

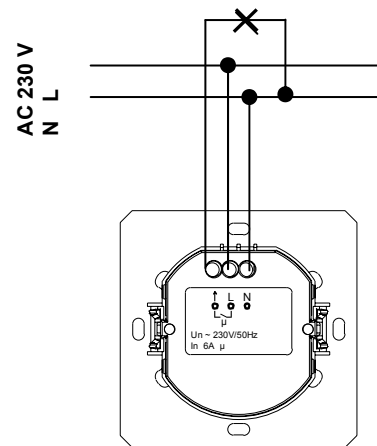


Diagram B

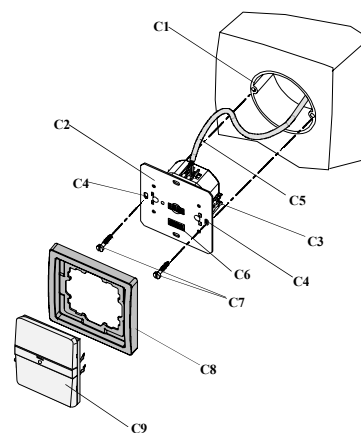


Diagram C

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- C1 Installation box (60 mm Ø, acc. to DIN 49073-1)
- C2 Transmitter actuator 230V wave UP 560
- C3 Mounting claws
- C4 Mounting slots for screw fixing
- C5 Cable for mains and load connection
- C6 10-pole socket connector
- C7 Mounting screws
- C8 Frame
- C9 instabus push button

Location and Function of the Display and Operating Elements

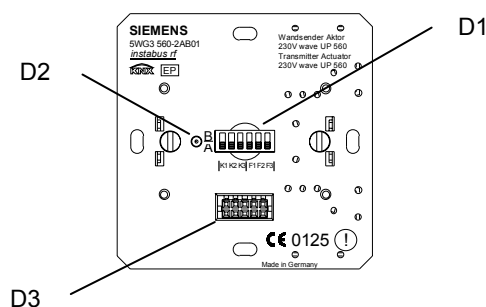
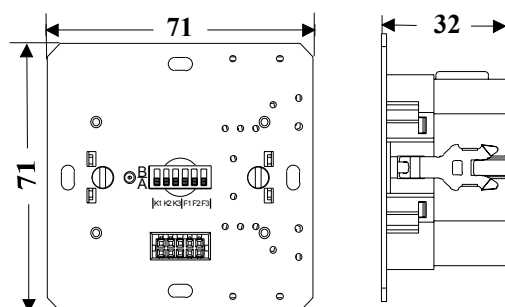


Diagram D

- D1 DIL switches for selecting the function and connecting the transmitter actuator via radio control
- D2 LED for displaying the operating state while the connections to other radio control components are established
- D3 10-pole socket connector for connecting an instabus push button or a motion detector

Dimension Diagram

Dimensions in mm



Commissioning

Note: The transmitter actuator 230V wave must be connected to the 230V cable for the commissioning. The commissioning of the transmitter actuator 230V wave is carried out without the instabus push button via the 6 DIL switches (D1) located at the front and is indicated via the flashing of the LED (D2) located beside the DIL switches.

Function of the DIL switches

Diagram E shows the DIL switches in the supplied state. In the lower switch position, a DIL switch is switched off (A=OFF) while it is switched on in the upper switch position (B=ON). Before connecting a rocker, all the DIL switches should be switched off.

Switches **K1 to K3** are used for the **assignment of the channels** to the applied rocker or for selecting the actuator. If a 1-fold instabus push button is used or when using a motion detector, DIL switch K1 must be used for commissioning the device. If a 2-fold instabus push button is implemented, DIL switch K1 is required for commissioning the left rocker while DIL switch K2 is required for commissioning the right rocker. DIL switch K3 is used for commissioning the actuator.

- K1 1-fold rocker or left rocker, motion detector
- K2 Right rocker
- K3 Actuator

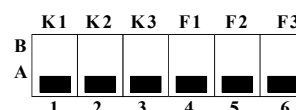


Diagram E

The DIL switches **F1 to F3** can be used for **setting the available functions** of switching, switching/ dimming, shutter control or scene function when the transmitter actuator is operated with a push button or they can be used for selecting the motion detector function when the actuator is operated with a motion detector.

Diagram F shows various switch displays that are used in the subsequent diagrams to explain the commissioning process.

Diagram F1 is used to display a **triggered action**. If the switch is moved from the position A to the position B, a local assignment or a connection via radio control is triggered.

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Diagram F2 is used to show a **position** which the relevant DIL switch must occupy.

Diagram F3 indicates that the relevant DIL switch must first be switched to the corresponding position according to the required function.

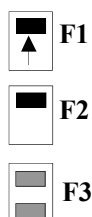


Diagram F

Diagram G shows which position the **function switches F1 to F3** must be switched to in order to **preselect a specified function**:

- Diagram G1 Function: Switching
- Diagram G2 Function: Switching / Dimming
- Diagram G3 Function: Shutter control
- Diagram G4 Function: Scene control
- Diagram G5 Function: Detection of movement

Afterwards only one of the channel switches K1 or K2 has to be switched to position B.

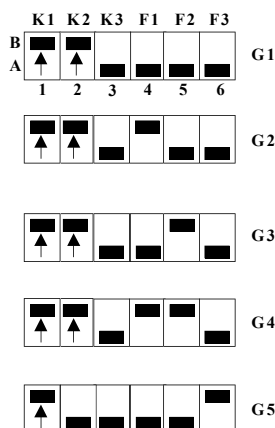


Diagram G

Diagram H shows how the **actuator operation mode** is set via switches F1 to F3 either to normal operation or to time switch mode with an operating time of 1, 5 or 15 minutes. Switches F1 to F3 must first be set to the required actuator operation mode in accordance with Diagrams H1 to H4 and then switch K3 must be switched on (until the LED flashes) and then off again when the LED has stopped flashing.

- Diagram H1 Normal operation (continually ON/OFF)
- Diagram H2 Time switch mode: 1 minute
- Diagram H3 Time switch mode: 5 minutes
- Diagram H4 Time switch mode: 15 minutes

When connecting the integrated actuator via radio control, switches F1 to F3 must always be set to the required actuator operation mode.

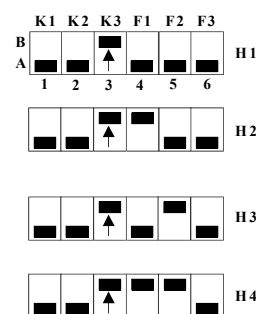


Diagram H

Initial commissioning

If a push button or a motion detector is placed on a transmitter actuator that is connected to 230V for the first time or after a master reset (see below), the transmitter actuator detects the connected device and automatically links it with the integrated actuator. In the case of a push button, the actuator is set to normal operation and the rocker or both rockers are linked to the actuator.

If the right rocker of a 2-fold push button is later linked with another radio-controlled actuator, the internal link to the transmitter's own actuator that was created automatically is deleted and must be taught in again if required. The automatic connection of the left rocker or the rocker of a 1-fold push button to the actuator remains intact however even when it is connected to another radio-controlled actuator.

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If another device type is placed onto a taught-in transmitter actuator (e.g. a motion detector instead of the previous push button), the sensor part of the transmitter actuator **cannot function** until the previous device is connected again or the new device has been taught in correctly (e.g. via a master reset before connecting a new device).

Connection via radio control:

Diagrams J and K indicate the connection of the rocker or the left rocker of a transmitter actuator 230V wave with a single rocker or a twin rocker with another radio-controlled actuator e.g. a switch insert sys with a plug-in push button wave.

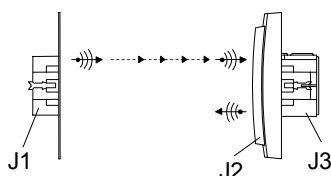


Diagram J

- J1 Transmitter actuator 230V wave UP 560
 J2 Push button wave UP 210
 J3 Switch insert sys

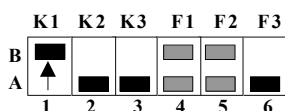


Diagram K

- Radio-controlled actuator:** Switch to the **special function**. (see the commissioning instructions of the radio controlled actuator)
- Transmitter:** Select the required function via DIL switches F1 to F3 according to diagram G.
- Transmitter: Trigger a connection telegram** via DIL switch K1 (**Diagram K**).

Action: Switch DIL switch K1 to position B. The transmitter sends a connection telegram.

Display: When K1 has been toggled, the LED of the transmitter actuator flashes slowly for approx. 2 seconds (approx. once per second). After a successful connection, the LED flashes rapidly for approx. 2 seconds (approx. twice per second) and is then extinguished. If a connection cannot be established, the LED is already extinguished after the first period of 2 seconds when it was flashing slowly. The teaching-in process must then be repeated.

4. Transmitter: Reset all the DIL switches to **A**.**Note:**

If the DIL switches are inadvertently not reset to position A after the connection, this is indicated by the LED of the plug-in *instabus* push button which continuously flashes at a rapid rate.

If the transmitter actuator 230V wave should be linked with other radio-controlled actuators, the process described above should be repeated for each actuator.

When using a 2-fold push button, if the right rocker should be linked with the right rocker of a radio-controlled actuator, the above procedure should be repeated, whereby the sending of the connection telegram must now be triggered by the toggling of DIL switch K2 (**Diagram L**).

An unlimited number of radio-controlled actuators can be operated remotely via the rockers of a transmitter actuator 230V wave. Switch and dimmer inserts can be operated together. The common operation of dimming and shutter functions is however only possible via scenes.

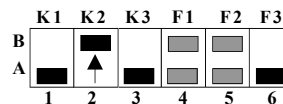


Diagram L

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Changing the actuator operation mode (Diagram M)

1. Set the required actuator mode via F1 and F2 (normal operation or time switch mode with 1, 5 or 15 minutes).
2. Switch the transmitter actuator to the special function via K3. (selected operation mode is adopted, LED flashes slowly).
3. All the DIL switches are reset to OFF.

Connecting the actuator with another transmitter (Diagram M)

1. Set the required actuator mode via F1 and F2 (normal operation or time switch mode with 1, 5 or 15 minutes).
2. Switch the transmitter actuator to the special function via K3 (selected operation mode is adopted, LED flashes slowly).
3. trigger the learning telegram on the other transmitter (LEDs on the other transmitter and on the transmitter actuator first flash quickly and are then extinguished).
4. Set all DIL switches of the transmitter actuator to A.



Diagram M

Linking the left rocker with its own actuator (Diagram N)

1. Set the required actuator mode via F1 and F2 (normal operation or time switch mode with 1, 5 or 15 minutes).
2. Switch the transmitter actuator to the special function via K3 (selected operation mode is adopted, LED flashes slowly).
3. Set the switch function or scene control via F1 to F3 (all other functions are not permitted).
4. Switch DIL switch K1 to B.
5. Reset all the DIL switches to A.



Diagram N

Deleting a link via radio:

The deletion of a connection is carried out by a new assignment (see "Connection via radio control").

Master reset

(Resetting the device to the supplied state, **Diagram O**)

Prerequisite: No other radio-controlled device may be switched to the special function.

1. First set the DIL switches F1 to F3 and then the DIL switches K1 to K3 to B and wait 10 seconds.
2. Reset all the DIL switches to A.

Once all the DIL switches have been toggled the LED of the transmitter flashes quicker and quicker and is extinguished after approx. 10 seconds. All the previously stored associations and connections are then deleted. If one of the DIL switches will be switched to A before the deletion of the LED the master reset will be stopped and all previous associations will be retained.

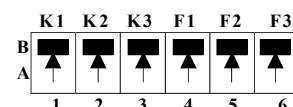


Diagram O

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:

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www.siemens.de/automation/support-request