



Wireless actuator
for shading elements and
roller shutters FSB61NP-230V

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

valid for devices from production week 35/16 (see bottom side of housing)

1+1 NO contact not potential free
4A/250V AC, for roller blinds and
shading systems. Encrypted wireless,
bidirectional wireless and repeater
function are switchable. Only 0.8 watt
standby loss.

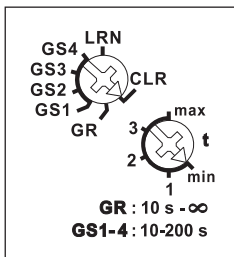
For installation.
45mm long, 45mm wide, 33mm deep.
Supply voltage, switching voltage and
control voltage local 230V.

If a power failure occurs, the device is
switched off in a defined sequence.
In addition to the wireless control input
via an internal antenna, this wireless
actuator can also be controlled locally
by a conventional 230V control push-
button mounted upstream. Glow lamp
current is not approved.

You can teach in encrypted sensors.
You can switch on **bidirectional wireless**
and/or a **repeater** function .

Every change in state and incoming cen-
tral command telegrams are confirmed
with a wireless telegram by bidirectional
wireless. This wireless telegram can be
taught-in in other actuators, in the GFVS
software and in universal displays.

Function rotary switches



With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central pushbuttons. The required function of this impulse group switch can then be selected:

GS1 = Group switch with pushbutton control and off delay in seconds. Both a wireless pushbutton with the function 'Up-Hold-Down-Hold' as well as the local pushbutton can be taught-in or a wireless pushbutton like a roller Venetian blind double pushbutton. With pressing 'Up', the switch position Up is activated. With pressing 'Down', the switch position Down is activated. The next pulse in the same direction interrupts the sequence immediately. However, a pulse in the opposite direction stops and then switches over to the opposite direction after a pause of 500 ms.

Dynamic central control with and without priority can be implemented: The switch position 'Up' at the top or 'Down' at the bottom are activated specifically by a control signal < 2 seconds from a pushbutton taught-in as a central control switch.

Dynamic central control with priority: The switch position 'Up' or 'Down' and the priority are activated specifically by a control signal >2 seconds and <10 seconds from a pushbutton taught-in as a central control switch. With priority because these control signals cannot be overridden by other control signals **until** the central command is again cancelled by a gate pulse 'Up' or 'Down' from the central control switch.

The switch position 'Up' or 'Down' and the priority are activated specifically by a control signal >10 seconds, e.g. from a central control switch FSM61.

With priority because these control signals cannot be overridden by other control signals **until** the central command is again cancelled by the end of the control signal.

GS2 = Group switch same as GS1, central switch always without priority.

GS3 = Group switch same as GS2, **in addition with double-click reverse function** for the local pushbutton and a wireless pushbutton as universal switch taught-in appropriately: After double-clicking, the Venetian blind moves in the opposite direction until it is stopped by a brief tap.

GS4 = Group switch same as GS2, **in addition with tip reverse function:** The control pushbutton is initially in static mode. The relay is energised as long as the pushbutton is tapped so that the Venetian blind can be reversed in the opposite direction by short impulses.

When tapped, the direction switch moves the Venetian blind in the corresponding direction. The universal switches move opposite to the previous direction. If the pushbutton remains closed a little longer, the relay switches over to dynamic mode and the relay remains closed to close or open the Venetian blind, even if the pushbutton is open before the end of the movement. A brief tap interrupts this process immediately.

GR = Group relay. As long as the wireless pushbutton is closed, a contact is closed. Then it reopens. On reception of the next wireless signal the other contact closes, etc. A mandatory pause of 500 ms is maintained after a contact change. A local 230V control pushbutton initiates the same function. Only for wireless: the control signal 'Central up' closes Contact ▲ and 'Central down' closes Contact ▼ as long as the pushbutton is closed. When the bottom rotary switch is in position 'max', no time delay is activated at GR (time delay time = ∞). A time delay of 10 to 200 seconds is adjustable between rotary switch positions 'min' and shortly before 'max'. This opens the closed contact automatically on expiry of the time delay, even if the switch is still closed.

Use the bottom rotary switch to set the time delay to the position 'Halt' in seconds. Select a delay time that is at least as long as the shading element or roller shutter needs to move from its end position to the other position.

Shading scene control:

Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a **scene button** or taught-in by a PC loaded with the GFVS software. If this was not the last function anyway, the shading element is first moved 'Up' at the RV delay time programmed by the bottom rotary switch to ensure a safe starting position. The device then switches over automatically to 'Down' and stops on expiry of the saved time. A move command is started only for the first time for scenes with RV time (fully 'Up' or 'Down').

For control via the GFVS software, up and down commands can be started with an exact running time. The actuator sends after every motion the exact running time, also after a command by pushbutton, by this way the GFVS software displays always the current position. At reaching the end position up or down, the position is automatically synchronized.

If a **wireless outdoor brightness sensor FAH60** is also taught-in in addition to a scene pushbutton, the taught-in scenes 1, 2 and 4 are executed automatically depending on the outdoor brightness: Scene 1 in direct sunlight (>25 kLux), Scene 2 in daylight (300 Lux to 25 kLux) and Scene 4 in darkness (1-30 Lux). During the first teach-in, therefore, a scene pushbutton is assigned automatically to Scenes 1 = no function, 2 = raise fully and 4 = lower fully. Scene 1 must be taught-in separately if the FAH60 is to trigger a shading system when direct sunlight is detected. A taught-in Scene 3 is only retrievable by means of a scene pushbutton.

Scenes 2 and 4 can be changed separately at any time. However, this is not advisable if the right rocker is

programmed to be used as a normal up/down shutter pushbutton or an FAH60 was taught-in.

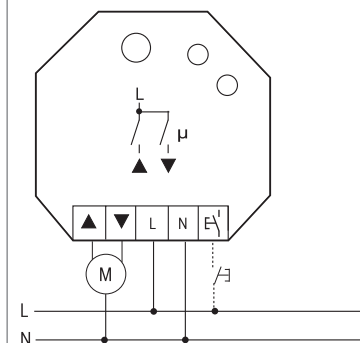
FAH60 wireless telegrams for Scenes 1 = direct sunlight are executed immediately and 4 = darkness. Three telegrams are required for Scene 2 = daylight in order to mask out interference lights. To prevent 'nervous' opening and closing of a shading element when there is rapid fluctuation between darkness and brightness, changing FAH60 wireless telegrams are only executed every 2 minutes.

The automatic systems can be cancelled or overridden at any time by confirming any one of the taught-in pushbuttons. Central pushbuttons always have priority.

When you teach in an FTK wireless window/door contact or a Hoppe wireless handle, a lock out protection is set when doors are opened to prevent Central Down and Scene Down.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Typical connection



Teaching-in wireless sensors in wireless actuators

All sensors must be taught-in in the actuators so that they can detect and execute commands.

Teaching-in actuator FSB61NP-230 V

The teach-in memory is empty on delivery from the factory. To ensure that a device was not previously taught-in, **clear the memory completely:**

Turn the upper rotary switch to CLR. The LED flashes at a high rate. Within 10 seconds, turn the lower rotary switch three times to right stop (turn clockwise) and back again. The LED stops flashing and goes out after 2 seconds. All taught-in sensors are cleared; the repeater and the confirmation telegrams are switched off.

Clear single taught-in sensors:

Turn the upper rotary switch to CLR. The LED flashes at a high rate. Operate the sensor. The LED goes out.

If all the functions of an encrypted sensor are cleared, teach-in must be repeated as described under *Teach-in encrypted sensors*.

Teaching-in sensors:

1. **Setting of the lower rotary switch** to the desired teaching-in function:

The flashing of the LED as soon as a new setting range has been reached when turning the rotary switch helps to find the desired position reliably.

Left stop min = teach-in direction switch top 'UP' and bottom 'DOWN' or 'hold' in both cases;

Direction switches are completely taught-in automatically when operating the top or bottom pushbutton. Otherwise top and bottom must be taught-in in the same way if the top and bottom pushbutton are to have the same function.

Position 1 = teach-in 'central DOWN';

Position 2 = teach-in universal switch 'DOWN-HOLD-UP-HOLD' and window/door contact FTK;

Position 3 = teach-in 'central UP';

Right stop max = scene button; When a FAH60 is taught-in, the position of the lower rotary switch determines the threshold at which scene 4 is called. 'min' = total darkness to 'max' = start of twilight.

The GFVS teach-in telegram OxEO400D80 can be taught-in in any position. The confirmation telegrams are hereby automatically activated.

2. **Set the upper rotary switch** to LRN. The LED flashes at a low rate.
3. **Operate the sensor which should be taught-in.** The LED goes out.

To teach-in further sensors, turn the upper rotary switch briefly away from position LRN. Continue the procedure from pos 1.

After teach-in, set the rotary switches of the actuators to the required function.

To prevent unintentional teach-in, teach in pushbuttons by 'double-clicking' (pressing rapidly twice in succession).

Within 2 seconds, turn the upper rotary switch three times to right stop LRN (turn clockwise). The LED flashes 'double'.

'Double-click' the pushbutton you want to teach in. The LED goes out.

To change back to teach-in with a 'single click', turn the upper rotary switch 3 times to right stop LRN (clockwise) within 2 seconds. The LED flashes at a low rate.

After a power supply failure, the device reverts automatically to teach-in with a 'single click'.

You can teach in unencrypted and encrypted sensors.

Teach in encrypted sensors:

1. Turn the upper rotary switch to LRN.
2. Turn the lower rotary switch three times to left stop (anticlockwise). The LED flashes very rapidly.
3. Within 120 seconds, enable sensor encryption. The LED goes out.
Caution: Do not switch off the power supply.
4. Then teach in the encrypted sensor as described in *Teach in sensors*.

To teach in other encrypted sensors, turn the upper rotary switch briefly away from position LRN and then turn it to 1. With encrypted sensors, use the 'rolling code', i.e. the code changes in each telegram, both in the transmitter and in the receiver.

If a sensor sends more than 50 telegrams when the actuator is not enabled,

the sensor is no longer recognised by the enabled actuator and you must repeat teach-in as 'encrypted sensor'. It is not necessary to repeat the function teach-in.

Teaching-in shading scenes:

The following scenes are saved in scene pushbuttons that are taught-in in fully automatic mode, as described above. 1 = No function; 2 = Raise fully; 3 = No function, and 4 = Lower fully. Scenes 1 and 3 may have to be taught-in separately. Scenes 2 and 4 may also be changed separately. However, this is not advisable if the right-hand rocker is programmed to be used as a normal up/down shutter pushbutton or an FAH60 was taught-in.

Individual teach-in: Start 'Down' from the top end position with an already taught-in universal or direction switch. The point of time of repressing the pushbutton then determines the function which can **then** be taught-in in the scene pushbutton:

- a) Press the pushbutton immediately to cancel another function that is saved.
- b) Press the pushbutton after approx. 1s to trigger the standard function 'Up'.
- c) Press the pushbutton after more than 2s, but shorter than the RV time setting to trigger the function 'Stop after this time' for shading purposes.
- d) Do not press pushbutton any more and wait until the RV time has expired. This triggers the standard function 'Down'.

The teach-in the scene pushbutton:

Press the required double rocker end for approx. 3s but not longer than 5s. Then open the shading element fully by pressing the universal or direction switch and continue as described above for other scenes.

Switching on/off repeater:

If control voltage is applied to the local control input when the power supply is switched on, the repeater is switched on/off. When the power supply is switched on, the LED lights up for 2 seconds = repeater off (as-delivered state) or 5 seconds = repeater on to indicate the state.

Switch-on confirmation telegrams:

For deliveries ex-works the confirmation telegrams are switched-off. Set the upper rotary switch to CLR. The LED flashes nervously. Now within 10 seconds turn the bottom rotary switch 3 times to the left (anticlockwise) and then back away. The LED stops flashing and goes out after 2 seconds. The confirmation telegrams are switched-on.

Switch-off confirmation telegrams:

Set the upper rotary switch to CLR. The LED flashes nervously. Now within 10 seconds turn the bottom rotary switch 3 times to the left (anticlockwise) and then back away. The LED goes out immediately. The confirmation telegrams are switched-off.

Teaching-in feedback of this actuator in other actuators or GFVS software:

For raising and lowering and simultaneously transmitting of feedback the local control input has to be applied. The corresponding feedback will be sent when reaching the end position top or bottom after the set RV time at the device.

Teaching-in feedback of other actuators in this actuator:

'Raising' will be taught-in in position 'central up'. 'Lowering' will be taught-in in position 'central down'. After teach-in the function and desired off-delay will be set.



When an actuator is ready for teach-in (the LED flashes at a low rate), the very next incoming signal is taught-in. Therefore, make absolutely sure that you do not activate any other sensors during the teach-in phase.

Frequency	868.3MHz
Transmit power	max. 10mW

Hereby, Eltako GmbH declares that the radio equipment type FSB61NP-230 V is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: eltako.com

Must be kept for later use!

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20/2018 Subject to change without notice.