Wireless actuator

Universal dimmer switch
without N, FUD61NP-230V

CE

> **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 46/17** (see bottom side of housing)

Without N connection, 300W power MOSFET. Only 0.7 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function. Light scenes can be taught-in.

Encrypted wireless, bidirectional wireless and repeater function are switchable. For installation.

45mm long, 45mm wide, 33mm deep.

Universal dimmer switch for R, L and C loads up to 300 watt, depending on ventilation conditions. Automatic detection of load R+L or R+C.

**Without N connection, therefore it is suitable for mounting directly behind the pushbutton light switch, even if there is no N wire.**

Energy saving lamps and LED lamps cannot be controlled by dimmers without N-connection.

Supply voltage, switching voltage and control voltage local 230V.
Minimum load only 40W.

**Zero passage switching with soft ON and soft OFF to protect lamps.**

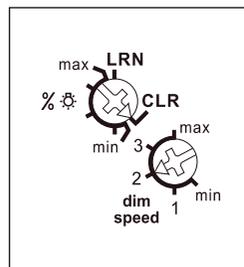The brightness level is stored on switch-off (memory).

In case of a power failure the switch position is stored and may be switched on when the power supply is restored.

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Automatic electronic overload protection and overtemperature switch-off.

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

Every change in state and incoming central command telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in into other actuators, FUA55 universal displays and the GFVS-Software. The current dimming value is also displayed in % in the GFVS-Software.

**Function rotary switches**



**The minimum brightness (fully dimmed) is adjustable with the %☼ rotary switch.**
In the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one or more central pushbuttons.

The dimming speed is adjustable using the **dimming speed rotary switch**. At the same time, the soft ON and soft OFF periods are changed.

In addition to the wireless control input via an internal antenna, this universal dimmer switch can also be controlled locally by a conventional 230V control switch if fitted previously.

**The wireless pushbuttons can be taught in either as direction switches or universal switches:**

**When installed as a direction switch,** one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

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**As a universal switch,** change the direction by briefly releasing the pushbutton. Short-time control commands switch on/off.

**Switching operation for children's rooms** (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

**Snooze function** (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

**Light scenes on the PC** are set and retrieved using the Wireless Visualisation and Control Software GFVS. A description of the GFVS is at 'eltako-wireless.com'. One or several FUD61NP devices must be taught in on the PC as dimming switches with percentage brightness values.

**Lights scenes with wireless switches** are taught in on the FUD61NP device. Up to four brightness values which can be taught-in in light scene pushbuttons with double rocker.

**Semi-automatic motion detection with taught-in FB65B wireless motion sensor (factory setting):** After switching on via pushbutton, the 5 minutes delay time starts, within this time the delay will restart after each detected motion. 5 minutes after the last detected motion it will switch off. If a motion is detected 5 minutes after switching off, it will automatically switch on again. After this time only a pushbutton can switch on. The pushbutton is allowed to switch off at any time, then the motions are no more evaluated.

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**Fully automatic motion detection with FB65B taught-in wireless motion sensor:**
If the actuator should switch on automatically when motion is detected, e.g. in rooms without daylight, replug the jumper to 'active' on the FB65B device. When motion is no longer detected, the device switches off automatically after the 5 minutes release delay time expires. Press the pushbutton at any time to switch the device on or off. When motion is detected, the device switches on again automatically.
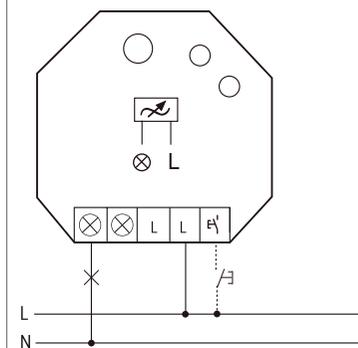Either an FBH (Master) or an FAH can be taught in.

If a **wireless motion-brightness sensor FBH (Master)** is taught in, the switching threshold at which the lighting with memory value switches on (from approx. 30 lux in the position 'min' to approx. 300 lux in the position '3') depending on the brightness (in addition to the motion) is determined with the lower rotary switch during teach-in. If the FBH is taught in in position 'max', it is only evaluated as a motion sensor (Slave). A dropout delay of 1 minute is fixed in the FBH.

If a **wireless brightness sensor FAH** is taught in, the threshold at which the lighting switches on or off (from approx. 0 lux in the position 'min' to approx. 50 lux in the position 'max') depending on the brightness is determined with the lower rotary switch. If the brightness threshold is undershot, the memory parameter is used to switch the device on. Switching off takes place at a brightness of > 200 lux.

**The LED** performs during the teach-in process as mentioned in this instruction manual below. It shows wireless control commands by short flickering during operation.

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**Typical connection**



**Technical data**

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| Incandescent lamp and halogen lamp load[1] 230V | up to 300W[2] |
| Local control current at 230V control input | 1mA |
| Max. parallel capacitance (approx. length) of local control lead at 230V AC | 0.06µF (200m) |
| Standby loss (active power) | 0.7W |

[1] Applies to lamps of max. 150W.
[2] Also max. 2 induction transformers of the same type (L load) and electronic transformers (C load).

**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 FUD61NP-230V**

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 direct light scene pushbutton, a complete push-button with double rocker is assigned automatically.
   **Position 1** = teach-in 'central OFF';
   **Position 2** = teach-in universal switch 'dim and ON/OFF';
   Universal switches must be taught-in identically at top and bottom if the switch is to have the same function at top and bottom.
   **Position 3** = teach-in 'central ON';
   **Right stop max** = Direction switches;
   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.
   The FB65B can be taught-in in any position.
   Rotary switches and GFVS can be taught-in in any position, confirmation telegrams are automatically activated and sent.
   The percentage brightness can be set in the GFVS between 0 and 100 per cent and saved. Several dimmer switches can be linked to form a light scene.
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 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.

**Saving light scenes**
Up to four brightness values retrievable with a direct light scene pushbutton can be saved.
1. Adjust the required brightness level with

a push button or with the GFVS.
2. Within 60 seconds, this brightness value will be stored by pressing a button 3-5 seconds on one of the four ends of the rocker of the previously taught-in direct light scene pushbutton.
3. Repeat from point 1 to save further directly retrievable light scenes.

**Switching the repeater on and off:**
The repeater is switched on or off if the control voltage is applied to the local control input when connecting the supply voltage. The LED lights up for 2 seconds as a status signal when applying the supply voltage = repeater off (as-delivered state) or 5 seconds = repeater on.

**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 GFSV software:** For switching ON and OFF and simultaneously transmitting of feedback the local control input has to be applied.

**Teaching-in feedback of other actuators in this actuator:** 'Switch on' will be taught-in in position 'central ON'. 'Switch off' will be taught-in in position 'central OFF'. After teach-in the desired minimum brightness and the dimming speed 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.

**EnOcean wireless**

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| Frequency | 868.3 MHz |
| Transmit power | max. 10 mW |

**Hereby, Eltako GmbH declares that the radio equipment type FUD61NP-230V 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!**