

Wireless actuator
PWM LED dimmer switch
FLD61



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 11/14 (see bottom side of housing)

PWM LED dimmer switch for LEDs
12-36V DC, up to 4A. Only 0.2-0.4 watt
standby loss. With adjustable minimum
brightness and dimming speed. With
switching operation for children's rooms
and snooze function. Also with light scene
control by PC or wireless pushbuttons.
Encrypted wireless, bidirectional wireless
and with repeater function.

For installation.

45 mm long, 55 mm wide, 33 mm deep.
supply voltage 12 to 36V DC, depending
on the connected LED lighting.

Output voltage PWM (puls width
modulation).

Maximum output voltage 4A.

A pulse resistant DC power supply unit is
required, which provides the necessary
voltage and required current of the LED
light(s).

**Universal control voltage input 8 to
230V UC**, electrically isolated from the
230V supply voltage and switching
voltage.

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

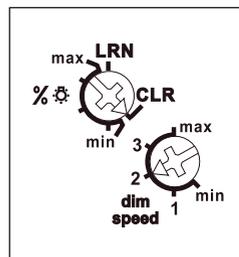
In case of a power failure the switch
position and the brightness stage are
stored and may be switched on when
the power supply is restored.

Automatic electronic overload protection
and overtemperature switch-off.

**Starting in production week 11/14, you
can teach in encrypted sensors.**

Bidirectional wireless and/or a **repeater**
function can be switched on.

Function rotary switches



The minimum brightness (fully dimmed)
is adjustable **with the upper % rotary
switch**. In the setting LRN up to 35 push-
buttons can be assigned, of which one
or more central pushbuttons.

The dimming speed can be adjusted
**with the lower dimming speed rotary
switch**.

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. A short inter-
ruption of control changes the direction
of dimming. Short control commands
switch on/off.

**The pushbuttons can be either taught-in
as direction pushbuttons or universal
pushbuttons: As direction pushbutton**
'switch on and dim up' is on one side
and 'switch off and dim down' on the
other side. A double-click on the switch
on side triggers the automatic dimming
up to full brightness with dim speed
time. A double-click on the switch off
side triggers the snooze function. The
children's room function is triggered on
the switch on side. **As a universal push-
button** the direction change is made by
briefly releasing the pushbutton.

Central pushbutton 'on' switches on
with memory value. **Central pushbutton
'off'** switches off.

Switching operation for children's rooms
(universal pushbutton or direction push-
button on the switch-on side): If the light

is switched on by holding down the push-
button, 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 pushbutton
or direction pushbutton on the switch-off
side): With a double impulse the lighting
is dimmed down from the current dim-
ming 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. One or several
FLD61 devices must be taught in on the
PC as dimming switches with percentage
brightness values.

Lights scenes with wireless pushbuttons
are taught in on the FLD61 device. Up to
four brightness values which can be
taught-in in light scene pushbuttons with
double rocker.

Either an FBH or an FAH can be taught in.

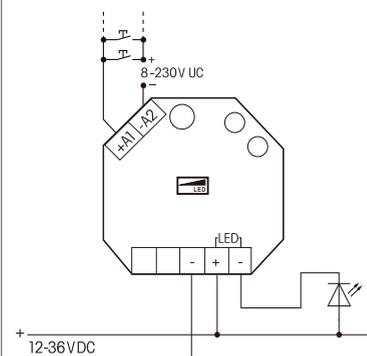
If a **wireless motion-brightness sensor
FBH** is taught in, the switching threshold
at which the lighting with memory value
switches on (from approx. 30 lux in the
position 'min' to approx. 300 lux in the
position '3') depending on the brightness
(in addition to the motion) is determined
with the lower rotary switch during teach-
in. If the FBH is taught in in position 'max',
it is only evaluated as a motion sensor.
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 brightness thresh-
old is falling below it will be switched to
memory value. Switching off takes place
at a brightness of > 200lux.

The LED performs during the teach-in
process according to the operation

manual. It shows control commands by
short flickering during operation.

Typical connections



**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 FLD61

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

- 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 pushbuttons, a complete pushbutton with double rocker is assigned automatically; **Teach in a computer using the Wireless Visualisation and Control Software GFVS:** The percentage brightness can be set there between 0 and 100 per cent and saved. Several dimmer switches can be linked to form a light scene.

position 1 = 'teach-in 'central off';

position 2 = Teach-in universal pushbutton 'dim' and 'on/off';

Universal pushbuttons must be taught-in identically at top and bottom if the pushbutton is to have the same function at top and bottom;

position 3 = teach-in 'central on';

right stop max = direction pushbuttons;

Direction pushbuttons are fully taught-in automatically when pressed. Where you press defines the switch-on and dim-up functions; the opposite side is then for switch-off and dim-down.

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.

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 previously taught-in universal or direction pushbutton.
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.

Recalling light scenes:

Press one rocker of the scene pushbutton briefly to recall the scene you require.

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 function and the desired minimum brightness or 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.

ELTAKO GmbH hereby declares that the products that relates to this operating manual, are in compliance with the essential requirements and other relevant provisions of directive 1999/5/EC. A copy of the EU declaration of conformity can be requested at the address below.

Must be kept for later use!

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