



THE HOME OF INNOVATION.

Eltako

FROM 'TOO LIGHT' OR 'TOO DARK' BECOMES: EXACTLY RIGHT!

OUR DIMMERS ALWAYS ENSURE THE PERFECT LIGHTING ATMOSPHERE.

IP actuators for decentralised installation. Matter certified and REST-API.



| | |
|---|---|
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Universal dimmer switches, capacity enhancer and 1-10 V controllers



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NEW
PRODUCT SERIES

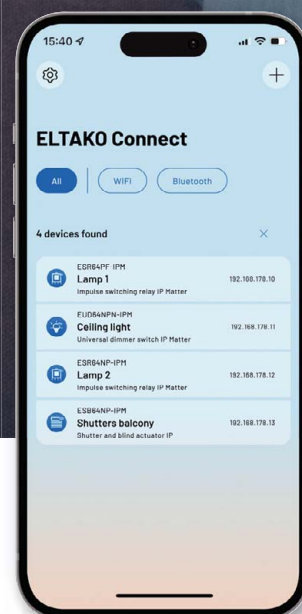
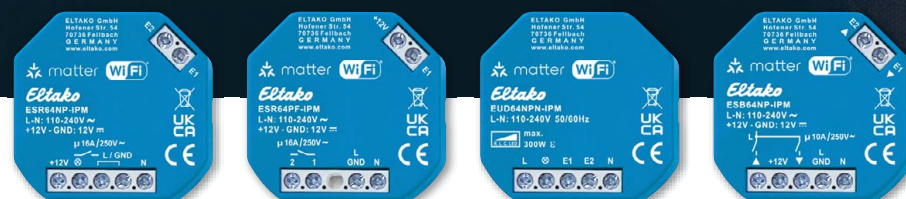
FASTER, EASIER, MORE COMFORTABLE

THE SERIES 64

SMALL, POWERFUL, EXPANDABLE

The new series 64 combines the latest switching and control technologies with innovative connectivity and functionality. It is Matter-certified, offers a REST API according to the OpenAPI standard and enables over-the-air updates, which forms the basis for professional smart home retrofitting.

Its range of functions can also be expanded using the EnOcean plug-in adapter EOA64. Discover the new products and all their advantages now!



ELTAKO Connect-App



Download ELTAKO Connect-App:
<https://eltako.com/redirect/eltako-connect>

THE MOST IMPORTANT AT A GLANCE

- Matter-certified, as a matter bridge
- Functionality can be expanded using the EnOcean adapter EOA64
- Can be parameterised using the ELTAKO Connect-App
- Only 46 x 45 x 20 mm in size



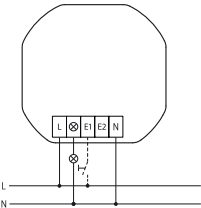
More Information:
<https://www.eltako.com/redirect/matter>



UNIVERSAL DIMMING ACTUATOR WITH IP, MATTER VIA WI-FI, OPTIONALLY ENOCEAN, UP TO 300W
EUD64NPN-IPM



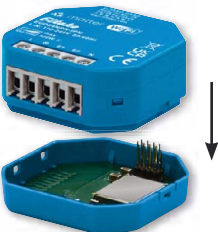
Typical connection



ELTAKO Connect-App
<https://eltako.com/redirect/eltako-connect>



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD64NPN-IPM>



EUD64NPN-IPM with adapter
EOA64



Manuals and documents in further languages:
<https://eltako.com/redirect/AP64EUD+E>

EUD64NPN-IPM



Universal dimming actuator with IP, Matter via Wi-Fi, optionally EnOcean. With power MOSFET. Dimmable 230 V LED lamps in 'trailing edge' mode up to 300 W or in 'leading edge' mode up to 100 W depending on ventilation conditions. 230 V incandescent lamps and halogen lamps up to 300 W depending on ventilation conditions. No minimum load. REST-API. Only 0.7 watt standby loss.

For flush mounting. 46 x 45 mm, 20 mm deep.

The connection terminals are screw terminals for conductor cross-sections up to 2.5 mm².

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

Supply voltage, switching voltage and control voltage local 110-240 V.

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

Automatic electronic overload protection and overtemperature switch-off. With control input for a mains voltage control button that may be installed in front of it.

Glow lamp current is not permitted.

The Wi-Fi link uses the 2.4 GHz frequency band and permits **Over-the-Air updates (OTA)**.

This actuator is Matter certified and can therefore be taught-in into different ecosystems and operated in parallel. To control via Matter, a compatible Matter controller is required for each ecosystem. For Apple Home, for example, a Homepod mini, for Amazon Alexa, for example, a compatible Echo Dot and for Google Home, for example, a Nest mini.

As an option, the actuator can be configured via the ELTAKO Connect-App.

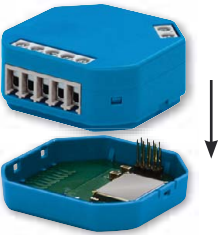
A development version of the REST API is available through the device's online product page. This is continuously being further developed.

The range of functions can be expanded using plug-on adapters. The EnOcean adapter (EOA64) enables access to the EnOcean ecosystem.

Further information on this can be found on the product page of the respective adapter.

| | | | |
|--------------|--|-------------------|-------------|
| EUD64NPN-IPM | Universal dimming actuator IP, Matter via Wi-Fi, optionally EnOcean, up to 300 W, REST-API | Art. No. 30064017 | 79,00 €/pc. |
| EOA64 | EnOcean plug-in adapter for series 64 | Art. No. 30064026 | 29,00 €/pc. |
| AP64EUD+E | Actuator pack EUD64NPN-IPM with EnOcean plug-in adapter EOA64 | Art. No. 30064018 | 99,00 €/pc. |

ENOCEAN PLUG-IN ADAPTER, FOR SERIES 64, EOA64



Series 64 with adapter
EOA64



Manuals and documents in further
languages:
<https://eltako.com/redirect/EOA64>

EOA64



For flush mounting with Series 64. 46 x 45 mm, 9 mm deep.

EnOcean plug-in adapter for Series 64. With the EnOcean plug-in adapter, compatible EnOcean devices can be taught into the Series 64. In addition, these EnOcean devices can be forwarded to various ecosystems via Matter.

ATTENTION: A Series 64 actuator is required, onto which the adapter is plugged.

| | | | |
|-------|---------------------------------------|-------------------|-------------|
| EOA64 | EnOcean plug-in adapter for series 64 | Art.-Nr. 30064026 | 29,00 €/pc. |
|-------|---------------------------------------|-------------------|-------------|



THE RIGHT LIGHT FOR EVERY ROOM WITH ELTAKO DIMMER SWITCHES

UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCER, 1-10V CONTROLLERS AND AND ROTARY DIMMERS

Set the mood and reduce energy costs at the same time – a fascinating combination for incandescent lamps, halogen lamps and LED lamps.



SELECTION TABLE FOR UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCER AND 1-10 V CONTROLLERS

THE ENERGY SAVERS



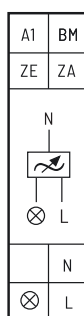
Set the mood and reduce energy costs at the same time - a fascinating combination for LED lamps, incandescent lamps and halogen lamps. The dimming of lamps in combination with soft ON and soft OFF, prolongs their lifetime considerably. This applies also to the infinitely dimmable energy saving lamps. Only universal dimmers with the marking R, L, C recognize automatically the connected load and

adjust their dimming function accordingly. Other dimmers have to be exchanged if lamps with other kind of loads are used later.

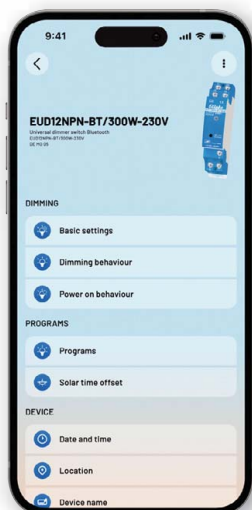
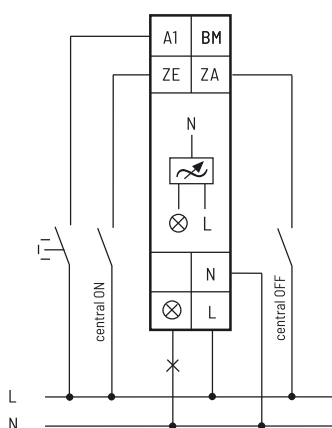
Only universal dimmer switches with the added LED marking and added ESL marking have the associated comfort settings.

| Page | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|--|------------|-----------------------|-----------------------|-------------|-------------------|-----------------|--------|-----------------|-----------------|-----------|-------------|-------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------|-----------------|-------------|
| | pictograms | EUD12NPN-BT/300W-230V | EUD12NPN-BT/600W-230V | EUD12NPN-UC | EUD12NPN/110-240V | EUD12D-UC | EUD12F | EUD12DK/800W-UC | LUD12-230V | MOD12D-UC | MFZ12PMD-UC | SDS12/1-10V | SUD12/1-10V | EUD61NP-230V | EUD61NPL-230V | EUD61NPN-UC | EUD61NPN-230V | EUD61M-UC | ELD61/12-36V DC | SDS61/1-10V |
| Modular device for DIN EN 60715 TH35 rail mounting, number of modules 18 mm each | | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | |
| Built-in device for installation (e.g. flush-mounting box) and surface mounting | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimming R, L and C loads | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ ⁵⁾ | L | ■ | 1-10 V EVG | 1-10 V EVG | ■ | R, C | ■ | ■ | ■ | | 1-10 V EVG |
| With comfort position for dimmable LEDs | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | | | | | ■ | ■ | ■ | | ■ | |
| With comfort position for dimmable energy saving lamps ESL | | | | | | ■ | ■ | ■ | ■ | | | | | | ■ | | | ■ | | |
| Power MOSFET up to W (nearly unlimited number of switching cycles) | | 300 | 600 | 400 | 400 | 400 | 300 | 800 | 400 | 300 | 400 | — | 400 ⁷⁾ | 400 | 200 | 400 | 400 | 400 | 4A | — |
| Increase of capacity with capacity enhancer LUD12-230 V | | | ■ | | | ■ | | ■ | | | ■ | | ■ ⁷⁾ | | | | | | | |
| Zero passage switching | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ |
| Minimum brightness level adjustable | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ ⁶⁾ | ■ | ■ | ■ | ■ ⁷⁾ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dimming speed adjustable | | ■ | ■ | ■ | ■ | ■ | ■ | | ■ ⁶⁾ | ■ | ■ | ■ | ■ ⁷⁾ | ■ | ■ | ■ ⁸⁾ | ■ ⁸⁾ | | ■ ⁸⁾ | ■ |
| Universal control voltage 8 to 230 V UC | | | | ■ | | ■ | | ■ | ■ ⁶⁾ | ■ | ■ | ■ | ■ ⁶⁾ | | | ■ | | ■ | ■ | |
| Supply voltage 230 V | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ ¹⁾ | ■ ¹⁾ | ■ | ■ | ■ | | ■ |
| Control and supply voltage 110-240 V 50/60 Hz | | | | | ■ | | | | | | | | | | | | | | | |
| Low standby loss | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Glow lamp current (mA) ^{2) 4)} | | | | 5 | | 5 ³⁾ | | | 5 ⁶⁾ | | 5 | | | | | | | | | |
| Central control electrically isolated from the local input | | ■ | ■ | | | ■ | | | ■ ⁶⁾ | ■ | ■ | (■) | ■ ⁶⁾ | | | | | | | |
| Switching operation for children's rooms | | ■ | ■ | ■ | ■ | ■ | ■ | | ■ ⁶⁾ | | | ■ | ■ ⁶⁾ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Snooze function | | ■ | ■ | ■ | ■ | ■ | ■ | | ■ ⁶⁾ | | | ■ | ■ ⁶⁾ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Multifunction | | ■ | ■ | | | ■ | | | | | ■ | | ■ ⁶⁾ | | | | | ■ | | |

* EVG = electronic ballast units ¹⁾ No N connection required. ²⁾ Applies to glow lamps with 170 V ignition voltage, for glow lamps with 90 V ignition voltage approx. ^{1/2} glow lamp current. ³⁾ Depends on the set function. ⁴⁾ Will automatically be switched on from 110 V control voltage. ⁵⁾ Same load as main dimmer switch or separate R, L or C load, depending on circuit. ⁶⁾ This specification refers to EUD12D, which is connected in series. ⁷⁾ This specification refers to the connected EUD12D or LUD12 depending on the selected mode. ⁸⁾ Minimum brightness level or dimming speed adjustable. ⁹⁾ Rotation speed determines the dimming speed.



Typical connection



ELTAKO Connect-App
<https://eltako.com/redirect/eltako-connect>



Manuals and documents in further languages:
https://eltako.com/redirect/EUD12NPN-BT*300W-230V

Technical data page 29.
Housing for operating instructions GBA14
page 1-48 chapter 1.

EUD12NPN-BT/300W-230V



Universal dimmer switch with integrated timer, Bluetooth and ELTAKO Connect-App. Power MOSFET up to 300 W. Automatic lamp detection. Standby loss 0,3 watt only. Minimum brightness, maximum brightness, dimming speed, switching operation for children's rooms, snooze function, motion detector, ON, OFF, TI, ER, ESV, TLZ, MIN, MMX, Programs with time or astro function, time offset solstice, date and time, location and Bluetooth can be set via the app according to the operating instructions.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 300 W, depending on ventilation conditions, dimmable 230 V LED lamps are also dependent on the lamp electronics and the dimming technology, **see Technical data page 29.**

Switching with soft start and soft OFF to protect lamps.

Control, supply and switching voltage 230 V.

The integrated timer has up to 10 program memory locations. With date and automatic summer time/winter time changeover. Power reserve without battery approx. 5 days. Each memory location can be used either with the Astro function (automatic switching after sunrise or sunset), or one of the 9 functions (On, Off, On with dimming value in %, On with memory value, light alarm clock, snooze switch, On with residual brightness, Off with residual brightness, TI).

In case of a power failure the switching position and the brightness level are stored and is switched on if necessary when the supply voltage returns.

Automatic electronic overload protection and over-temperature switch-off.

When **delivered**, the 'Auto' operating mode is active. Short control commands at the local control input switch on/off, permanent control changes the brightness up to the maximum value. An interruption in the control changes the dimming direction. The central control is active, with priority and the motion detector switches on with the memory value. In order to change or configure the operating mode, the connection must be established with the ELTAKO Connect-App.

Connect the timer to the app:

Press the button on the front for 6 seconds, the blue LED flashes. The connection can now be established with the app (delivery status **PIN123123**). The flashing of the blue LED signals that the pairing is ready. This ends automatically after 3 minutes, but can also be ended manually by pressing a button for >6 seconds. The QR code in the user manual leads to the download of the app with which the device can be configured. After the connection to the app has been established, the blue LED lights up permanently. If the connection is not disconnected via the app, it will automatically disconnect after 20 minutes of no interaction with the app. After disconnecting the connection via the app, the dimmer switch signals its readiness for pairing again and the blue LED flashes.

Change PIN: The PIN for the Bluetooth connection can be changed in the app under the **Device PIN** entry.

Bluetooth reset (delete any changed PIN): Briefly tap the button on the front 8 times.

AUTO allows the dimming of all lamp types.

Leading edge LC1-LC3 are comfort positions with different dimming curves for dimmable 230 V LED lamps, which cannot be dimmed far enough on auto due to their design and therefore have to be forced to leading edge.

Trailing edge LC4-LC6 are comfort positions with different dimming curves for dimmable 230 V LED lamps, which cannot be dimmed far enough on Auto.

No inductive (wound) transformers may be used in the leading edge and trailing edge settings.

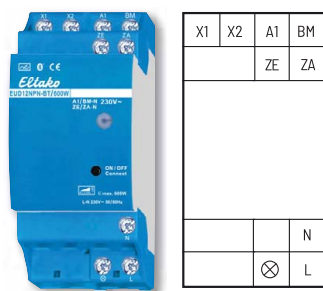
In addition, due to the design, the maximum number of lamps may be lower than in automatic mode.

By briefly pressing the button on the front, you can always switch it on and off manually.

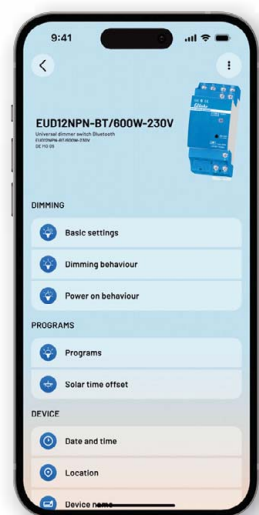
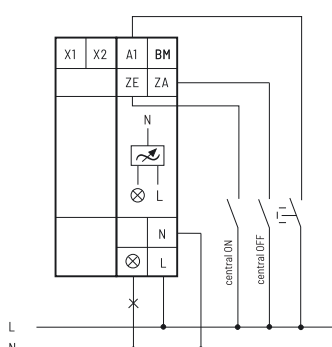
The control input A1 is used to control pulses using a universal button. A direction button for 'off' can be connected via the diode RTD (any polarity). Another direction button for 'on' is connected directly to A1. With the first control pulse 'off', the dimmer switch switches control input A1 to 'direction button'. In order to switch control input A1 back to 'universal button', the supply voltage must be briefly switched off or switched in the app under basic settings. A motion detector can be connected via the BM control input. The additional control inputs ZE and ZA are used to control centrally on and off with priority.

With priority because these control inputs cannot be overridden by other control inputs **as long as** the central control contact is closed. The green LED lighting up signals the activation of one of the four control inputs.

| | | | |
|-----------------------------------|---|--------------------------|--------------------|
| EUD12NPN-BT/ 300W-230V | Universal dimmer switch, Power MOSFET up to 300 W | Art. No. 21100807 | 80,00 €/pc. |
|-----------------------------------|---|--------------------------|--------------------|



Typical connection



ELTAKO Connect-App

<https://eltako.com/redirect/eltako-connect>



Manuals and documents in further languages:
https://eltako.com/redirect/EUD12NPN-BT*600W-230V

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EUD12NPN-BT/600W-230V



Universal dimmer switch with integrated timer, Bluetooth and ELTAKO Connect-App. Power MOSFET up to 600 W. Automatic lamp detection. Standby loss 0,3 watt only. Minimum brightness, maximum brightness, dimming speed, switching operation for children's rooms, snooze function, motion detector, ON, OFF, TI, ER, ESV, TLZ, MIN, MMX, Programs with time or astro function, time offset solstice, date and time, location and Bluetooth can be set via the app according to the operating instructions.

Modular device for DIN EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 600 W, depending on ventilation conditions. Dimmable 230 V LED lamps are also dependent on the lamp electronics and the dimming technology, see **Technical data page 29**.

Up to 3400 W with capacity enhancers LUD12 at the terminals X1 and X2.

Zero passage switching with soft start and soft OFF to protect lamps.

Control, supply and switching voltage 230 V.

The integrated timer has up to 10 program memory locations. With date and automatic summer time/winter time changeover. Power reserve without battery approx. 5 days. Each memory location can be used either with the Astro function (automatic switching after sunrise or sunset), or one of the 9 functions (On, Off, On with dimming value in %, On with memory value, light alarm clock, snooze switch, On with residual brightness, Off with residual brightness, TI). In case of a power failure the switching position and the brightness level are stored and is switched on if necessary when the supply voltage returns.

Automatic electronic overload protection and over-temperature switch-off.

When **delivered**, the 'Auto' operating mode is active. Short control commands at the local control input switch on/off, permanent control changes the brightness up to the maximum value. An interruption in the control changes the dimming direction. The central control is active, with priority and the motion detector switches on with the memory value. In order to change or configure the operating mode, the connection must be established with the ELTAKO Connect-App.

Connect the dimmer switch to the app:

Press the button on the front for 6 seconds, the blue LED flashes. The connection can now be established with the app (delivery status **PIN123123**). The flashing of the blue LED signals that the pairing is ready. This ends automatically after 3 minutes, but can also be ended manually by pressing a button for >6 seconds. The QR code in the user manual leads to the download of the app with which the device can be configured. After the connection to the app has been established, the blue LED lights up permanently. If the connection is not disconnected via the app, it will automatically disconnect after 20 minutes of no interaction with the app. After disconnecting the connection via the app, the dimmer switch signals its readiness for pairing again and the blue LED flashes.

Change PIN: The PIN for the Bluetooth connection can be changed in the app under the Device PIN entry. Bluetooth reset (delete any changed PIN): Briefly tap the button on the front 8 times.

The setting AUTO allows dimming of all lamp types.

Leading edge LC1-LC3 are comfort positions with different dimming curves for dimmable 230 V LED lamps, which cannot be dimmed far enough on auto due to their design and therefore have to be forced to leading edge.

Trailing edge LC4-LC6 are comfort positions with different dimming curves for dimmable 230 V LED lamps, which cannot be dimmed far enough on Auto.

No inductive (wound) transformers may be used in the leading edge and trailing edge settings. In addition, due to the design, the maximum number of lamps may be lower than in automatic mode.

By briefly pressing the button on the front, you can always switch it on and off manually.

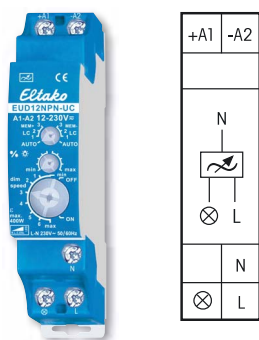
The control input A1 is used to control pulses using a universal button. A direction button for 'off' can be connected via the diode RTD (any polarity). Another direction button for 'on' is connected directly to A1. With the first control pulse 'off', the dimmer switch switches control input A1 to 'direction button'. In order to switch control input A1 back to 'universal button', the supply voltage must be briefly switched off or switched in the app under basic settings.

In order to switch control input A1 back to 'universal button', the supply voltage must be briefly switched off or switched in the app under basic settings. A motion detector can be connected via the BM control input. The additional control inputs ZE and ZA are used to control centrally on and off with priority.

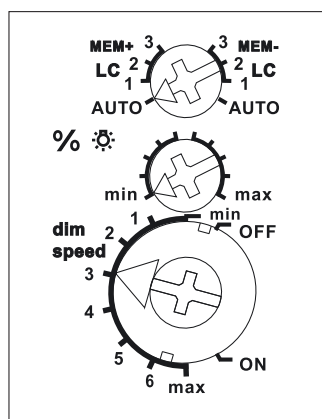
With priority because these control inputs cannot be overridden by other control inputs **as long as** the central control contact is closed. The green LED lighting up signals the activation of one of the four control inputs.

| | | | |
|-----------------------|--|-------------------|--------------|
| EUD12NPN-BT/600W-230V | Universal dimmer switch with Bluetooth, Power MOSFET up to 600 W | Art. No. 21100809 | 128,26 €/pc. |
|-----------------------|--|-------------------|--------------|

UNIVERSAL DIMMER SWITCH EUD12NPN-UC WITH UNIVERSAL CONTROL VOLTAGE

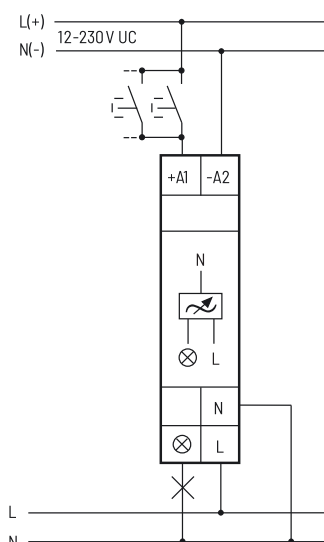


Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD12NPN-UC>

Technical data page 29.
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EUD12NPN-UC



Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum or maximum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 400 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the and the dimming technology, **see Technical data page 29.**

Switching with soft start and soft OFF to protect lamps.

Universal control voltage input 12 to 230 V UC, electrically isolated from the 230 V supply voltage and switching voltage 230 V ~ 50/60Hz. No minimum load required.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

An interruption of control changes the direction of dimming.

The setting of the brightness level is stored after switching off.

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Glow lamp current up to 5 mA starting at 110 V.

Automatic electronic overload protection and over-temperature switch-off.

The LED below the top rotary switch on the front shows control commands. It starts blinking after 15 seconds if a pushbutton is inhibited.

During operation, **the upper rotary switch** determines whether the automatic lamp recognition 'AUTO' should be active, or one of the special comfort positions LC1, LC2 or LC3.

If the **MEM+** setting range is selected, the **memory function** is active and the last brightness level set is saved when the device is switched off. If the setting range **MEM-** is selected, the memory function is switched off and it is always switched on with maximum brightness. Dimmable energy-saving lamps must be operated on AUTO and MEM.

AUTO allows the dimming of all light species.

LC1 is a comfort position for dimmable 230 V LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

LC2 and **LC3** are comfort positions for dimmable 230 V LED lamps like LC1, but with different dimming curves.

In positions LC1, LC2 and LC3 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

The minimum brightness level (completely dimmed down) or the maximum brightness level (completely dimmed up) is adjustable with the **middle % rotary switch**.

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

The duration of soft start and soft OFF is changed simultaneously.

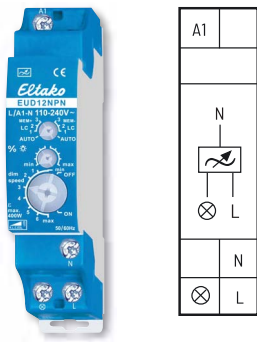
With special switching operation for children's rooms: If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function: 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

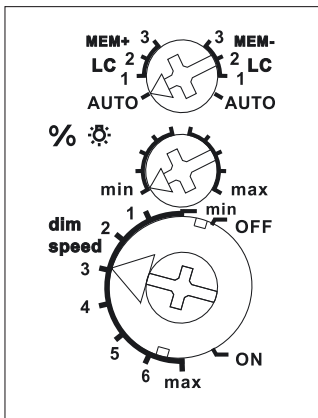
Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

Mixing of L loads and C loads is possible with the dimmer switch **EUD12D** (page 14) in connection with capacity enhancer **LUD12** (page 17).

| | | | |
|--------------------|--|--------------------------|--------------------|
| EUD12NPN-UC | Universal dimmer switch, Power MOSFET up to 400 W | Art. No. 21100806 | 65,22 €/pc. |
|--------------------|--|--------------------------|--------------------|

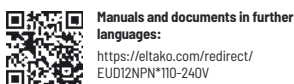
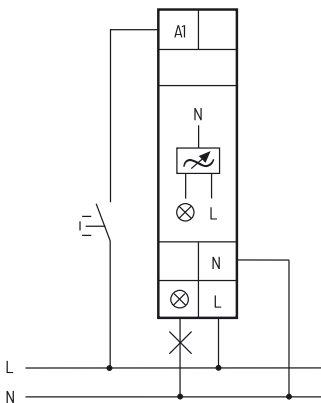


Function rotary switch



Standard setting ex works.

Typical connection



Technical data page 29.
 Housing for operating instructions
 GBA14 page 1-48 chapter 1.

EUD12NPN/110-240V



Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum or maximum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 400 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the and the dimming technology, **see Technical data page 29.**

Switching with soft start and soft OFF to protect lamps.

Control and switching voltage 110 V AC to 240 V AC 50/60 Hz.

No minimum load required.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

An interruption of control changes the direction of dimming.

In case of a power failure the switching position and the brightness level are stored. If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

The LED below the top rotary switch on the front shows control commands. It starts blinking after 15 seconds if a pushbutton is inhibited.

During operation, **the upper rotary switch** determines whether the automatic lamp recognition 'AUTO' should be active, or one of the special comfort positions LC1, LC2 or LC3.

If the **MEM+** setting range is selected, the **memory function** is active and the last brightness level set is saved when the device is switched off. If the setting range **MEM-** is selected, the memory function is switched off and it is always switched on with maximum brightness. Dimmable energy-saving lamps must be operated on AUTO and MEM.

AUTO allows the dimming of all light species.

LC1 is a comfort position for dimmable 230 V LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

LC2 and **LC3** are comfort positions for dimmable 230 V LED lamps like LC1, but with different dimming curves.

In positions LC1, LC2 and LC3 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

The minimum brightness level (completely dimmed down) or the maximum brightness level (completely dimmed up) is adjustable with the **middle % rotary switch**.

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

The duration of soft start and soft OFF is changed simultaneously.

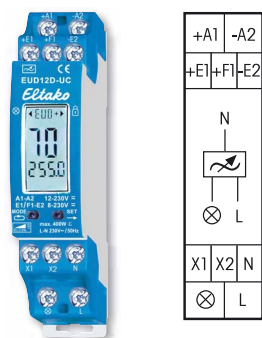
With special switching operation for children's rooms: If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function: 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

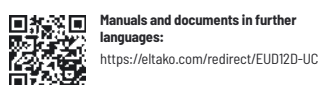
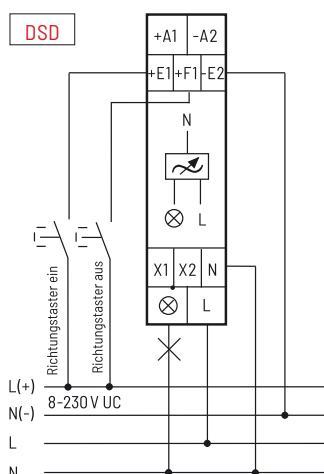
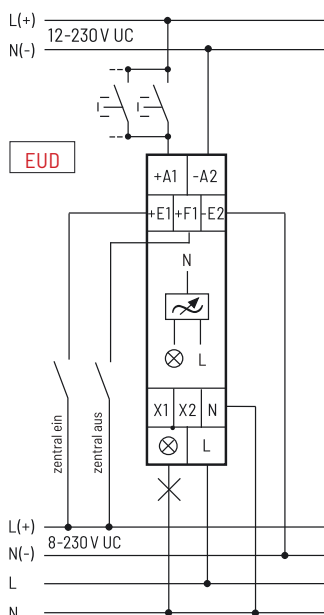
Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

Mixing of L loads and C loads is possible with the dimmer switch EUD12D (page 14) in connection with capacity enhancer LUD12 (page 17).

| | | | |
|--------------------------|--|--------------------------|--------------------|
| EUD12NPN/110-240V | Universal dimmer switch, Power MOSFET up to 400 W | Art. No. 21100808 | 47,00 €/pc. |
|--------------------------|--|--------------------------|--------------------|



Typical connections



Technical data page 29.
 Housing for operating instructions
 GBA14 page 1-48 chapter 1.

EUD12D-UC



Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.3 watt only. With adjustable minimum brightness, maximum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 400 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the dimming technology, **see Technical data page 29.**

Up to 3600 W with capacity enhancers LUD12-230V (description page 17) at the terminals X1 and X2. Universal control voltage 12 to 230 V UC and additionally the universal voltage control inputs 8 to 230 V UC central ON and central OFF. The control inputs are electrically isolated from the supply voltage and switching voltage. **Zero passage switching with soft start and soft OFF to protect lamps.** In case of a power failure the switching position and the brightness level are stored. If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered. From 110 V control voltage glow lamp current up to 5 mA (not for DSD). Automatic electronic overload protection and over-temperature switch-off. The functions and times are entered using the MODE and SET keys as described in the operating manual and indicated on the LC display. A keylock function is provided.

You can dim all lamp types in automatic mode settings EUD, DSD, Udo, STS, MIN, MMX, CG and R.

EUD = Universal dimmer switch with settings for dimming speed, minimum brightness, maximum brightness, memory and Soft ON/OFF as well as choice of priority for central control. ESL and LED is settable. Short-time control commands switch on/off, permanent control varies the brightness to the maximum level. A interruption of control changes the direction of dimming.

LED is a convenience setting for dimmable 230 V LED lamps which cannot be dimmed down far enough in automatic mode (phase cut-off) for design reasons and must therefore be forced to phase control. There is a choice of 3 dimming curves.

ESL is a convenience setting for energy saving lamps which must be switched on at high voltage for design reasons so that they can also be switched back on cold in dimmed state. Memory must be switched off on energy saving lamps which cannot be switched back on in dimmed state for design reasons.

No inductive (wound) transformers may be used in ESL and LED settings. In addition the maximum number of lamps may be lower than in automatic mode for design reasons.

Switching operation for children's rooms: 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: 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

DSD = Same as universal dimmer switch EUD but also comprising activation via two direction switches on the universal voltage control inputs 12..230 V UC.

Udo = Same as universal dimmer switch EUD but also comprising setting for a time delay from 1 to 99 minutes. Switch-off early warning at the end by dimming is selectable and adjustable from 1 to 3 minutes.

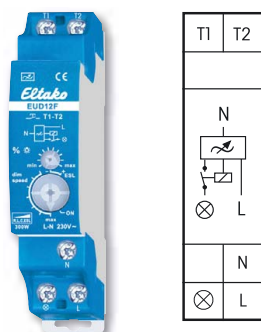
STS = Staircase time switch with switchable switch-off early warning by dimming. With pump and permanent light by pushbutton. Time adjustable from 1 to 99 minutes. Switch-off early warning (no flickering) by dimming is adjustable from 1 to 3 minutes. Also for dimmable energy saving lamps ESL and 230 V LED lamps. **MIN** = Universal dimmer switch, switches when control voltage is applied to the minimum brightness setting. Maximum brightness is dimmed during the set dim time from 1 to 99 minutes. When the control voltage is interrupted, the device is switched off immediately, even during the dim time.

MMX = Same function as for **MIN**; when the control voltage is interrupted, dimming still continues until the set minimum brightness is reached. Then the device is switched off. **CG** = Clock with adjustable switch on/off times from 0.1 to 9.9 seconds. The maximum brightness is adjustable from 3 to 99%.

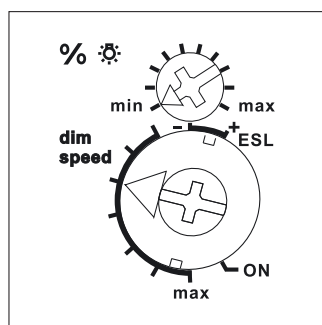
R = Switching relay with setting for Soft ON/OFF from 0.1 to 9.9 seconds. The maximum brightness is adjustable from 3 to 99%. **ON** = permanent ON. **OFF** = permanent OFF.

The dim position in % or the time lapse in minutes is indicated in the middle of the display. The expired, resettable switch-on time is indicated at the bottom of the display. Display menu guidance including language selection (German, English, French, Italian or Spanish) is described in the supplied operating instructions.

| | | | |
|------------------|---|--------------------------|--------------------|
| EUD12D-UC | Multifunction universal dimmer switch, Power MOSFET up to 400 W | Art. No. 21100905 | 84,30 €/pc. |
|------------------|---|--------------------------|--------------------|

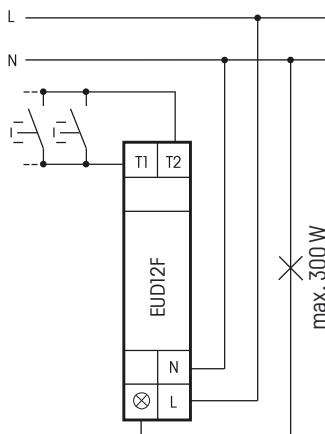


Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD12F>

Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

EUD12F



Universal dimmer switch. Power MOSFET up to 300 W. Automatic lamp detection. Standby loss 0.1 watt only. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 300 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics.

Zero passage switching with soft start and soft OFF to protect lamps.

Supply voltage and switching voltage 230 V.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

An interruption of control changes the direction of dimming.

The setting of the brightness level is stored after switching off.

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

With integrated switching-off relay for the mains disconnection of switched circuits.

The control pushbutton(s) of the room are connected via low voltage control wires to the terminals T1 and T2 of the EUD12F (field-free internal DC voltage). The permanent power supply must be connected directly to a phase conductor **ahead** of the mains disconnection relay FR12-230V. Due to this, the complete function remains but the leads to the lamps is disconnected by means of the switching-off relay. A glow lamp current is not permitted.

The minimum brightness level (completely dimmed down) can be adjusted with **the upper rotary switch**

% , e.g. for dimmable energy saving lamps.

You can dim all lamp types in automatic mode.

Use the lower dimming speed rotary switch to set the dimming speed in seven steps in automatic mode.

+ESL is a convenience setting for energy saving lamps which must be switched on at high voltage for design reasons so that they can also be switched back on cold in dimmed state.

-ESL is a convenience setting for energy saving lamps which cannot be switched back on in dimmed state for design reasons.

This is why memory is switched off in this position. No inductive (wound) transformers may be used in +ESL and -ESL settings. In addition the maximum number of dimmable energy saving lamps may be lower than in automatic mode for design reasons.

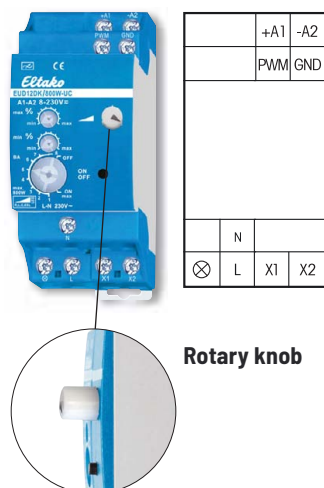
With special switching operation for children's rooms: If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function: 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

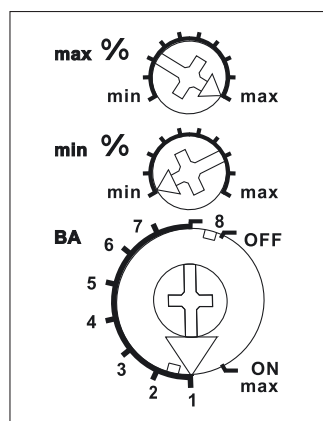
Mixing of L loads and C loads is possible with the dimmer switch **EUD12D** (page 14) in connection with capacity enhancer **LUD12** (page 17).

| | | | |
|---------------|---|--------------------------|--------------------|
| EUD12F | Universal dimmer switch, Power MOSFET up to 300 W and switching-off relay | Art. No. 21100830 | 86,40 €/pc. |
|---------------|---|--------------------------|--------------------|



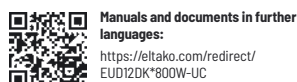
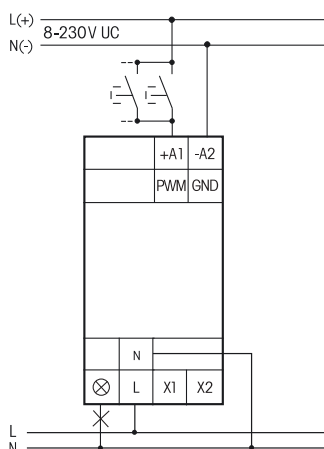
Rotary knob

Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
https://eltako.com/redirect/EUD12DK*800W-UC

Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

EUD12DK/800W-UC



Universal dimmer switch with rotary knob, Power MOSFET up to 800 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum and maximum brightness.

Modular device for DIN EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

Universal dimmer switch for lamps up to 800 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the dimming technology, **see Technical data page 29.**

Up to 3600W with capacity enhancers LUD12 at the terminals X1 and X2.

Zero passage switching with soft start and soft OFF to protect lamps.

Universal control voltage input 8 to 230 V UC, electrically isolated from the 230 V supply voltage and switching voltage. No minimum load required.

Alternatively, PWM control with 10-24 V DC at the PWM and GND connections.

The setting of the brightness level is stored after switching off (Memory).

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

Maximum brightness (fully dimmed up) is adjustable using the upper % rotary switch.

Use the middle % rotary switch to set the minimum brightness (fully dimmed down).

The lower rotary switch sets the operating mode:

ON: Permanent ON at maximum brightness.

Pos. 1 is an AUTO position and allows the dimming of all lamp types. Switch on and off using pushbutton on the device and/or pushbutton connected to +A1/-A2. Dimming via rotary knob.

Pos. 2 is a comfort setting for dimmable 230 V LED lamps which cannot be dimmed down far enough on AUTO (phase cut-off) due to the design and must therefore be forced at phase control. Switch on and off using pushbutton on the device and/or pushbutton connected to +A1/-A2. Dimming via rotary knob.

Pos. 3 is a comfort setting for energy saving lamps which must be switched on at a higher voltage so that they can be safely switched on cold when they are dimmed down. Switch on and off using pushbutton on the device and/or pushbutton connected to +A1/-A2. Dimming via rotary knob.

Pos. 4 is an AUTO position and allows the dimming of all lamp types. Switch on and off using switch connected to +A1/-A2. Dimming via rotary knob.

Pos. 5 is a comfort setting for dimmable 230 V LED lamps which cannot be dimmed down far enough on AUTO (phase cut-off) due to the design and must therefore be forced at phase control. Switch on and off using switch connected to +A1/-A2. Dimming via rotary knob.

Pos. 6 is a comfort setting for energy saving lamps which must be switched on at a higher voltage so that they can be safely switched on cold when they are dimmed down. Switch on and off using switch connected to +A1/-A2. Dimming via rotary knob.

Pos. 7 is an AUTO position and allows the dimming of all lamp types. Switch on and off and dimming with PWM activation.

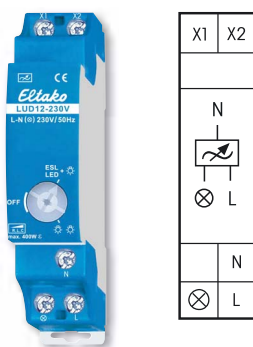
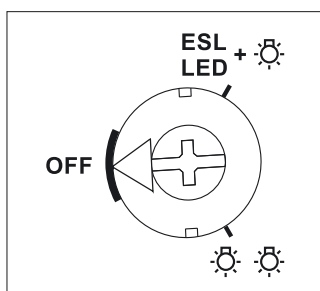
Pos. 8 is a comfort setting for dimmable 230 V LED lamps which cannot be dimmed down far enough on AUTO (phase cut-off) due to the design and must therefore be forced at phase control. Switch on and off and dimming with PWM activation.

In positions 2, 3, 5, 6 and 8 no inductive (wound) transformers should be used.

OFF: Permanent OFF.

The LED under the upper rotary switch lights up when the lamp is switched on.

| | | | |
|------------------------|---|--------------------------|--------------------|
| EUD12DK/800W-UC | Universal dimmer switch, Power MOSFET up to 800 W | Art. No. 21100810 | 79,80 €/pc. |
|------------------------|---|--------------------------|--------------------|

**Function rotary switch**

Standard setting ex works.

The switching mode '**one lamp**' (☼) or '**additional lamps**' (☼☼) is set with a rotary switch on the front.

This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.

Alternative setting for 230 V LED and ESL when the universal dimmer switch is operated in the LED or ESL comfort settings. See instruction manual.



Manuals and documents in further languages:
<https://eltako.com/redirect/LUD12-230V>

Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

LUD12-230V



Capacity enhancer for universal dimmer switches. Power MOSFET up to 400 W. Standby loss 0.1 watt only.

Modular device for DIN EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Capacity enhancers LUD12-230V can be connected to the universal dimmer switches EUD12NPN-BT/600W, EUD12D, EUD12DK/800W, SUD12 (1-10 V input) and the multifunction time relay MFZ12PMD. By this the switching capacity for **one lamp** will be increased up to 200 W or **alternatively for additional lamps** up to 400 W per each capacity enhancer.

Dimmable 230 V LED lamps and dimmable energy saving lamps are also dependent on the lamp electronics.

Both switching modes for increase of capacity can be executed simultaneously.

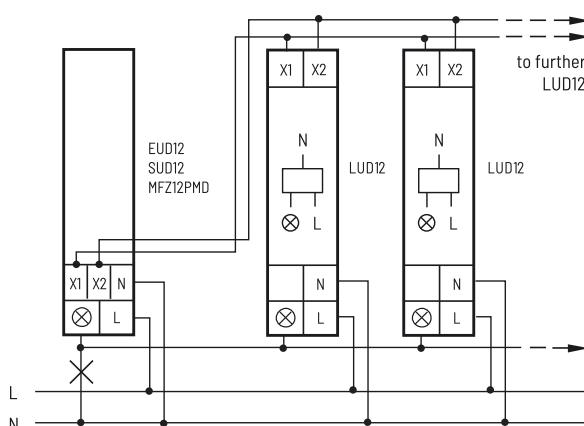
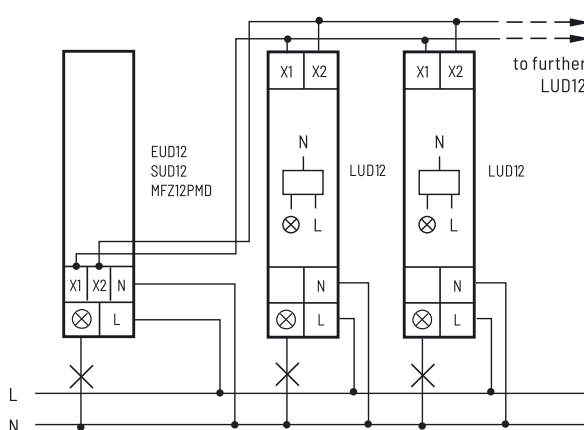
Automatic lamp detection in the 'Capacity increase **with additional lamps**' setting.

Supply voltage 230 V.

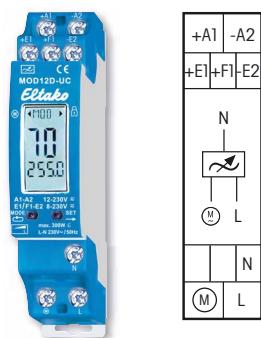
Automatic electronic overload protection and over-temperature switch-off.

In the mode 'Increase of capacity with additional lamps' the kind of load of a capacity enhancer LUD12-230V can vary from the kind of load of the universal impulse dimmer switch.

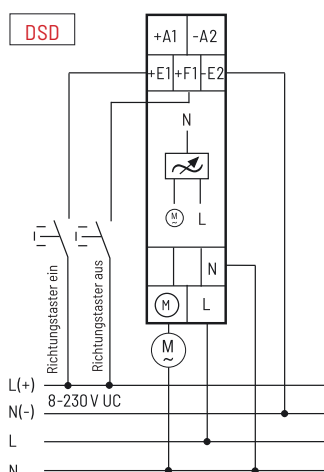
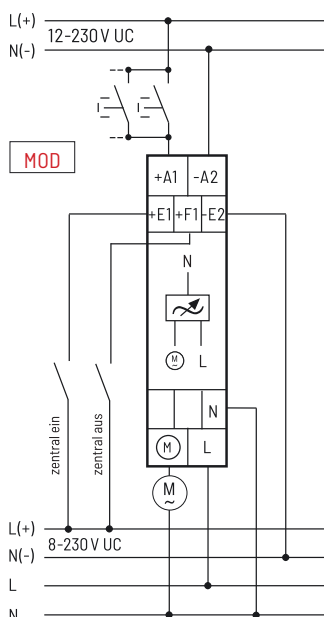
Therefore it is possible to mix L loads and C loads.

Increase of capacity for one lamp (☼), LED and ESL see instruction manual**Increase of capacity with additional lamps (☼☼), LED and ESL see instruction manual**

| | | | |
|-------------------|---|--------------------------|--------------------|
| LUD12-230V | Capacity enhancer for universal dimmer switches, Power MOSFET up to 400 W | Art. No. 21100805 | 73,80 €/pc. |
|-------------------|---|--------------------------|--------------------|



Typical connections



Manuals and documents in further languages:
<https://eltako.com/redirect/MOD12D-UC>

Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

MOD12D-UC



Power MOSFET up to 300 W. Standby loss 0.3 watt only. Minimal speed, maximum speed and dimming speed are adjustable.

Modular device for DIN EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Motor dimmer with phase control for L loads up to 300 W, depending on ventilation conditions. Only 1 fan motor should be connected.

Universal control voltage 12 to 230 V UC and additionally the universal voltage control inputs 8 to 230 V UC central ON and central OFF. The control inputs are electrically isolated from the 230 V supply voltage and switching voltage.

Switching in zero crossing and switch-on at increased speed.

If there is a power failure, the switch position and the speed level are saved. The device can be switched on when the power supply is restored.

Automatic electronic overload protection and over-temperature switch-off.

Enter the 6 functions and times using the MODE and SET keys as described in the operator manual.

The functions and times are indicated in the LC display. Other features include language selection and keylock.

The total switch-on time is added and indicated in the bottom line of the display. It can be reset to zero.

The top line shows the parameters during the setting procedure and the active function in service. The left arrow indicates the switch position 'ON' and the right arrow shows the keylock function when applied. During the setting procedure, the middle line shows the parameters set. In service, the middle line indicates the speed between 10 and 99 for the MOD and DSD functions or the remaining time in minutes for the Udo and ODT functions.

MOD = Motor dimmer with settings for dimming speed DSP, minimum speed MI%, maximum speed MA%, memory function MEM+ and selection of the central control inputs ON and/or OFF when activated or deactivated. Short commands switch on/off, permanent activation changes speed. An interruption in activation changes the dimming direction.

DSD = Motor dimmer with activation with two direction buttons for dimming direction. Setting the dimming speed DSP, minimum speed MI%, maximum speed MA% and memory function MEM+. When activation takes place via +E1, a short command switches on. Permanent activation dims up to maximum speed. A double-click immediately dims to maximum speed. When activation takes place via +F1, a short command switches off. Permanent activation dims down to minimum speed. No central control function.

Udo = Motor dimmer as for MOD function with manual on/off. In addition, a time delay time TIM can be set from 1 to 99 minutes. When the time delay expires, the device switches off. Central ON has priority over Central OFF.

ODT = Motor dimmer with run-on switch function with adjustable speed SP%, response lag AV adjustable from 1 to 99 minutes and time delay RV adjustable from 1 to 99 minutes. When the control voltage is applied, the device switches on after the AV time expires. When the control voltage cuts off, the RV time begins. When the RV time expires, the device switches off.

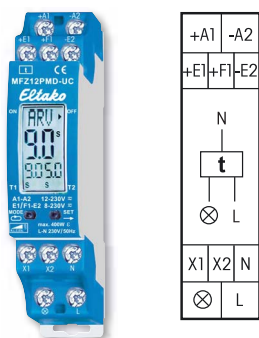
No central control function.

ON = Permanent ON at maximum speed, **OFF** = Permanent OFF.

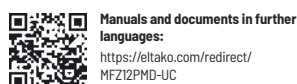
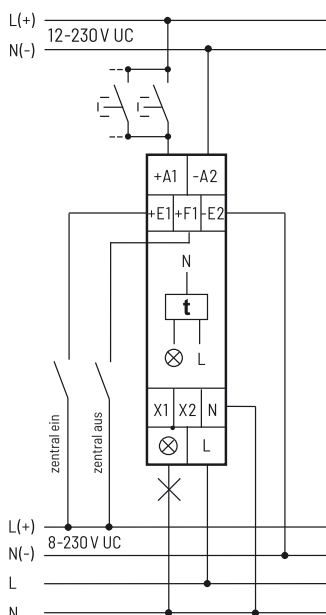
Press MODE and SET briefly and simultaneously to activate the keylock. Then press SET to confirm the flashing LCK. Press MODE and SET simultaneously for 2 seconds to deactivate keylock. Then press SET to confirm the flashing UNL.

| | | | |
|------------------|--|--------------------------|--------------------|
| MOD12D-UC | Digitally adjustable motor dimmer, Power MOSFET up to 300 W | Art. No. 21100906 | 84,40 €/pc. |
|------------------|--|--------------------------|--------------------|

FULLY ELECTRONIC MULTIFUNCTION TIME SWITCH MFZ12PMD-UC WITH 18 FUNCTIONS



Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/MFZ12PMD-UC>

MFZ12PMD-UC



Power MOSFET with almost unlimited number of circuits up to 400 W. Automatic lamp detection. Standby loss 0.3 watt only. Dim down to minimum brightness and up to maximum brightness and Soft ON / Soft OFF are also adjustable for lamp circuit.

Modular device for DIN EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. Digitally adjustable and fully electronic multifunction time switch for lamps up to 400 W dependent on ventilation conditions. Dimmable 230V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the dimming technology, **see Technical data page 29**. If **minimum brightness** is not set to 0, the circuit is not switched off but dimmed down to the set percentage. **Up to 3600 W with capacity enhancers LUD12-230V** (description page 9-10) at the terminals X1 and X2. Universal control voltage 12 to 230 V UC and additionally the universal voltage control inputs 8 to 230 V UC central ON and central OFF. The control inputs are electrically isolated from the supply voltage and switching voltage.

Zero passage switching to protect lamps.

Glow lamp current up to 5 mA starting at 110 V.

Automatic electronic overload protection and overtemperature switch-off.

Enter both the functions and the times using the two buttons MODE and SET. The functions and times are indicated digitally on an LC display. The time can be set by entering all values within the preselected time scale (0.1 to 9.9 or 1 to 99 seconds, minutes or hours). The longest time is 99 hours. This permits 600 time settings. The time(s) entered is (are) permanently displayed digitally.

Settable functions (description page 13-11): **RV** = release delay, **AV** = operate delay, **AV+** = additive operate delay, **TI** = clock generator starting with impulse, **TP** = clock generator starting with pause, **IA** = impulse-controlled operate delay, **IF** = pulse shaper, **EW** = fleeting NO contact, **AW** = fleeting NC contact, **EAW** = fleeting NO contact and fleeting NC contact, **ARV** = operate and release delay, **ARV+** = additive operate and release delay, **ES** = impulse switch, **SRV** = release-delay impulse switch, **ESV** = impulse switch with release delay and switch-off early-warning function, **ER** = relay, **ON** = permanent ON, **OFF** = permanent OFF. With TI, TP, IA, EAW, ARV and ARV+ functions, a different second time can be entered also with different time ranges.

Setting the times and functions: The LCD component to be changed is selected by pressing the MODE key. The component accessed flashes. Press the SET key to change the component accessed. This may be the function, the time ranges, time T1 or time T2 (on TI, TP, IA, EAW, ARV and ARV+ only). Pressing the MODE key terminates each input. Once the time has been set with MODE, no more components are flashing. The timing relay is now ready to operate. Press the MODE key again to restart the input cycle. All the entered parameters are retained if they are not changed using SET. 25 sec. after the last operation and if the component still flashes the input cycle is automatically terminated and the previously made changes lapse.

Setting additional parameters valid for all functions: when you press the MODE button for longer than 2 seconds, you access the submenu. Press the SET button to select the parameter you want to change. Then confirm by pressing MODE. Press SET to enter the parameter and confirm by pressing MODE. After the 'LED' submenu, you return automatically to the main menu.

MIN = Minimum brightness in OFF state settable to 0 and from 10 to 89 (%), factory setting = 0.

MAX = Maximal brightness in ON state settable from 10 to 99 (%), factory setting = 99. MAX must be at least 10 divisions above MIN.

RMP = Switch ON/OFF ramp (soft ON and soft ON) adjustable from 0 = 10 ms to 99 = 1 s, factory setting = 0.

LED = LED+ for dimmable 230 V LED lamps which cannot be dimmed down far enough in automatic mode (trailing edge control) for design reasons and must therefore be forced by phase control. Enabled by pressing MODE; factory setting = LED without +.

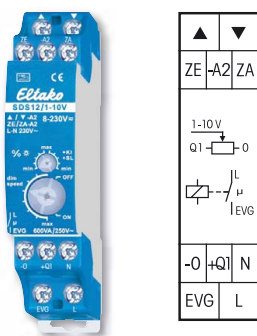
Functions of the LC display: if you selected the functions ON or OFF, no time is displayed. Instead an arrow indicates either ON or OFF. In all other functions the set time(s), the function abbreviation and an arrow next to ON and OFF display the switching position. The clock symbol flashes while the set time is elapsing and the remaining time is shown.

Safety in the event of a power failure: The set parameters are stored in an EEPROM and are therefore immediately available again when the power supply is restored after a power failure.

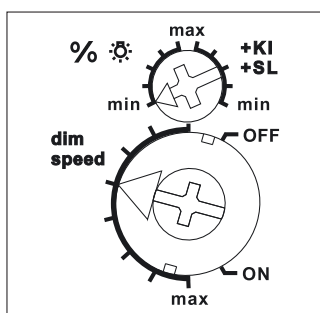
Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

| | | | |
|--------------------|--|--------------------------|--------------------|
| MFZ12PMD-UC | Fully electronic multifunction time switch, Power MOSFET up to 400 W | Art. No. 23001006 | 88,10 €/pc. |
|--------------------|--|--------------------------|--------------------|

1-10 V CONTROL DIMMER SWITCH SDS12/1-10V FOR ELECTRONIC BALLAST UNITS

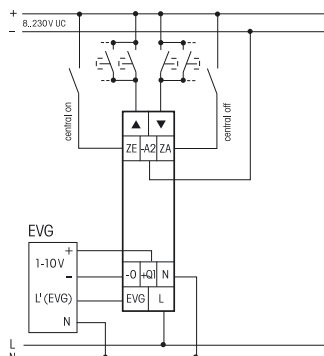


Function rotary switches

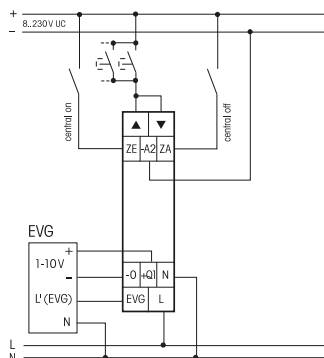


Standard setting ex works.

Typical connections



with direction pushbutton



with universal pushbutton



Manuals and documents in further languages:
https://eltako.com/redirect/SDS12*1-10V

Technical data page 29.
Housing for operating instructions
GBA14 page 1-48 chapter 1.

SDS12/1-10V



1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Only 0.5 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 modul = 18 mm wide, 58 mm deep.

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

Also adapted for LED driver with 1-10 V passive interface, without voltage source up to 0.6 mA, above this value an additional voltage source is necessary.

Universal control voltage 8 to 230 V UC, local and central on/off with same potential.

Supply voltage 230 V electrically isolated.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

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.

The minimum brightness (fully dimmed) is adjustable with the upper % rotary switch.

At the same time, you define whether the children's room function and the snooze function are active (+KI +SL).

The dimming speed is adjustable using the lower dimming speed rotary switch.

The load is switched on and off by a bistable relay at output EVG (electronic ballast units). Switching capacity for fluorescent lamps or LV halogen lamps with electronic ballast units 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Either direction pushbuttons can be connected to ▲ ▼ or these terminals are bridged and a push-button is connected as universal pushbutton. As direction pushbutton ▲ is 'switch on and dim up' and ▼ is 'switch off and dim down'. A double click at ▲ triggers the automatic updimming until full brightness with dim speed. A double click at ▼ triggers the snooze function. The children's room function is realized with the pushbutton at ▲.

As a universal pushbutton, change the direction by briefly releasing the pushbutton.

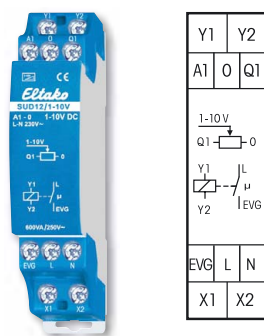
Switching operation for children's rooms KI (universal pushbutton or direction pushbutton ▲):

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 SL (universal pushbutton or direction pushbutton ▼): 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

| | | | |
|--------------------|--|--------------------------|--------------------|
| SDS12/1-10V | 1-10 V control dimmer switch for electronic ballast units, 1 NO contact 600 VA | Art. No. 21100800 | 71,30 €/pc. |
|--------------------|--|--------------------------|--------------------|



SUD12/1-10V



1 NO contact potential free 600 VA and 1-10 V control output 40 mA. Standby loss 0.5 watt only.

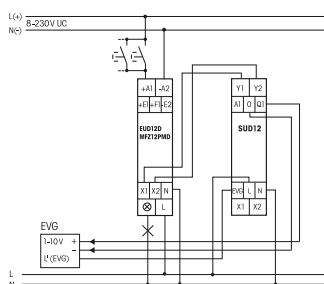
Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

The controller SUD12 can be used in two different modes:

Mode 1-10 V output

Mode 1-10 V output



In this mode electronic ballast units and transformers with a 1-10 V interface up to a total control current of 40 mA can be controlled when connected to an universal dimmer switch EUD12D or MFZ12PMD. The EUD12D or the MFZ12PMD is controlled with pushbuttons at the universal control voltage input locally or centrally. The SUD12 converts the dimmer signals from Y1/Y2 to the 1-10 V output O/Q1 for the interface.

It switches the electronic ballast with a bistable relay at the output EVG (electronic ballast units). **Zero passage switching to protect contacts.** The switching capacity for fluorescent lamps or low voltage halogen lamps with electronic ballast is up to 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

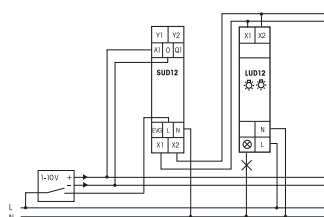
The switched load may not be connected to the mains before the short automatic synchronisation after installation has terminated.

At the same time a directly dimmable lamp can be connected to the dimmer switch EUD12D.

Furthermore the dimmer switch EUD12D or MFZ12PMD can be expanded with capacity enhancers LUD12 for directly dimmable lamps as described on page 17.

Mode 1-10 V input

Mode 1-10 V input



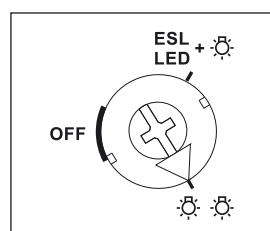
Manuals and documents in further languages:
https://eltako.com/redirect/SUD12*1-10V

Technical data page 29.

Housing for operating instructions
GBA14 page 1-48 chapter 1.

In this mode the output of a 1-10 V controller can be converted at A1/O into a direct dimming function when connected to a capacity enhancer LUD12 at terminals X1/X2. The closing operation and the opening operation is also carried out externally at L of the SUD12.

The rotary switch of the LUD12 must be adjusted to the setting  (additional lamps).

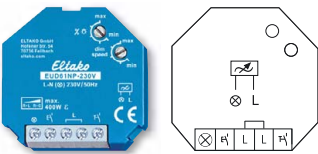


Further capacity enhancers LUD12 in the mode 'increase of capacity with additional lamps' can be connected to the controller SUD12 as described on page 17.

A 100 K potentiometer for brightness control may also be directly connected to the control input A1/O. If the input A1/O is disconnected the LUD12 dims to maximum brightness.

| | | | |
|--------------------|---|--------------------------|--------------------|
| SUD12/1-10V | 1-10 V controller for universal dimmer switches, 1 NO contact 600 VA | Art. No. 21100802 | 68,00 €/pc. |
|--------------------|---|--------------------------|--------------------|

UNIVERSAL DIMMER SWITCH EUD61NP-230V WITHOUT N CONNECTION

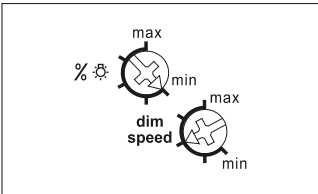


EUD61NP-230V



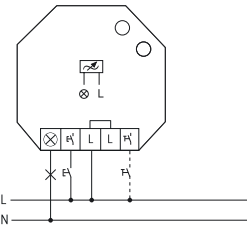
Without N connection, POWER MOSFET up to 400 W. Standby loss 0.5 watt only. With control inputs for pushbutton light switches and light switches. With adjustable minimum brightness and dimming speed.

Function rotary switches

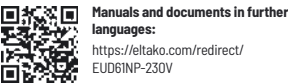


Standard setting ex works.

Typical connection



Control by pushbutton switches or light switches.



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD61NP-230V>

Technical data page 29.

Built-in device for installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for R, L and C loads up to 400 watt, depending on ventilation conditions. Automatic detection of load R+L or R+C.

Not compatible with 230 V LED and energy saving lamps, please use the EUD61NPL or the dimmer with N connection: EUD61NPN.

Zero passage switching with soft start and soft OFF to protect lamps.

Control voltage 230 V. Min. load 20 W.

Short-time control commands switch on/off, permanent control varies the brightness up to the maximum level. A short interruption of control changes the direction of dimming.

The brightness level is stored after switching off.

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

The minimum brightness level (completely dimmed down) can be adjusted **with the upper rotary switch** %☼. The dimming speed can be adjusted **with the lower dimming speed rotary switch**. Simultaneously the soft on and soft off period is changed.

If light switches cannot be replaced by pushbutton light switches, there is a separate control input for light switches. If the switch is opened briefly after closing, the light is dimmed until the next time it is opened again briefly. The dimming direction changes automatically at both peaks. The dimming direction can also be changed by opening the switch briefly twice.

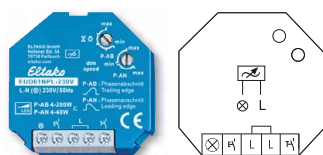
Switching operation for children's rooms (only if controlled by pushbutton light switch): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored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

Snooze function (only if controlled by pushbutton light switch): 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

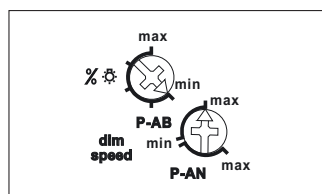
Without N connection, therefore suitable for mounting directly behind the pushbutton light switch or light switch, even if no N wire is available.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

| | | | |
|--------------|---|-------------------|-------------|
| EUD61NP-230V | Universal dimmer switch, Power MOSFET up to 400 W | Art. No. 61100830 | 71,20 €/pc. |
|--------------|---|-------------------|-------------|

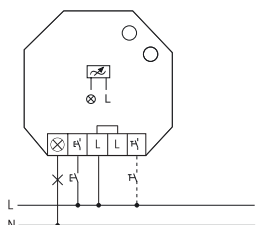


Function rotary switches



Standard setting ex works.

Typical connection



Control by pushbutton switches or light switches.



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD61NPL-230V>

Technical data page 29.

EUD61NPL-230V



Without N connection, POWER MOSFET up to 200 W. Standby loss 0.5 watt only. With control inputs for pushbutton light switches and light switches. With adjustable minimum brightness, dimming technology and dimming speed.

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for R and C loads up to 200 W, depending on ventilation conditions.

Dimmable 230 V LED lamps and energy saving lamps ESL in 'trailing edge' mode up to 200 W or up to 40 W in 'leading edge' mode, depending on ventilation conditions.

If 230 V LED lamps are lightly glowing when they are turned off, a GLE base load must be installed parallel to the lamp.

It is not permitted to connect L loads (inductive loads, like wounded transformers).

Zero passage switching with soft start and soft OFF to protect lamps.

Control voltage, supply voltage and switching voltage 230 V. Min. load 4 W.

Short-time control commands switch on/off, permanent control varies the brightness up to the maximum level. A short interruption of control changes the direction of dimming.

The brightness level is stored after switching off (memory). It is possible to deactivate the memory function by turning 3 times the upper rotary switch to the right stop (max), then it is compatible with ESL. To re-activate the memory function (factory setting), turn the upper rotary switch 3 times to the left stop (min). In case of a power failure the switching position and the brightness level are stored, and will switch on after the failure if applicable.

Automatic electronic overload protection and over-temperature switch-off.

The minimum brightness level (completely dimmed down) can be adjusted **with the upper rotary switch** %.

The lower rotary switch allows to choose between the both dimming technologies, P-AN leading or P-AB trailing edge and to change the dimming speed. Simultaneously the duration of soft on and soft off will be adjusted.

If light switches cannot be replaced by pushbutton light switches, there is a separate control input

for light switches: If the switch is opened briefly after closing, the light is dimmed until the next time it is opened again briefly. The dimming direction changes automatically at both peaks. The dimming direction can also be changed by opening the switch briefly twice.

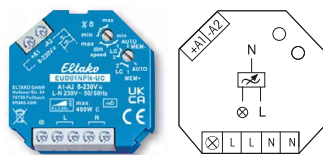
Switching operation for children's rooms (only if controlled by pushbutton light switch): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored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

Snooze function (only if controlled by pushbutton light switch): 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

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

| | | | |
|----------------------|--|--------------------------|--------------------|
| EUD61NPL-230V | Universal dimmer switch without N connection, especially for LED Power, MOSFET up to 200 W | Art. No. 61100832 | 68,40 €/pc. |
|----------------------|--|--------------------------|--------------------|

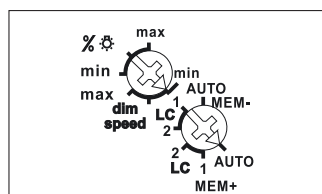


EUD61NPN-UC



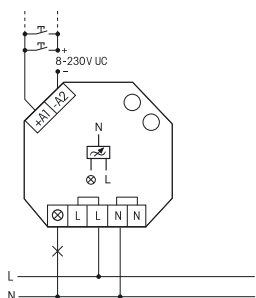
Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum brightness or dimming speed. With switching operation for children's rooms and snooze function.

Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD61NPN-UC>

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for lamps up to 400 watts, depending on ventilation conditions. Dimmable 230 V LED lamps and dimmable energy saving lamps ESL dependent on the lamps electronics and the dimming technology, **see Technical data page 29.**

Switching with soft start and soft OFF to protect lamps.

Universal control voltage input 8 to 230 V UC, electrically isolated from the 230 V ~ 50/60 Hz supply voltage and switching voltage. No minimum load required.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level. An interruption of control changes the direction of dimming.

The setting of the brightness level is stored after switching off (Memory).

In case of a power failure the switching position and the brightness level are stored. If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

With the top rotary switch %/dim speed either the minimum brightness level (completely dimmed down) or the dim speed can be adjusted. The duration of soft-on and soft-off will be changed with the dimming speed.

The lower rotary switch determines in operation whether the automatic lamp detection 'AUTO' should act, or one of the special Comfort settings LC1 or LC2.

If the **MEM+** setting range is selected, the **memory function** is active and the last brightness level set is saved when the device is switched off. If the setting range **MEM-** is selected, the memory function is switched off and it is always switched on with maximum brightness. Dimmable energy-saving lamps must be operated on AUTO and MEM-.

AUTO allows the dimming of all lamp types.

LC1 is a comfort position for dimmable 230 V LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

LC2 like LC1, but with different dimming curves.

In positions LC1 and LC2 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

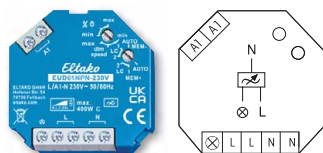
With special switching operation for children's rooms: If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function: 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

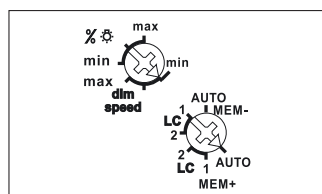
Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

Technical data page 29.

| | | | |
|--------------------|---|--------------------------|--------------------|
| EUD61NPN-UC | Universal dimmer switch, Power MOSFET up to 400 W | Art. No. 61100801 | 67,40 €/pc. |
|--------------------|---|--------------------------|--------------------|

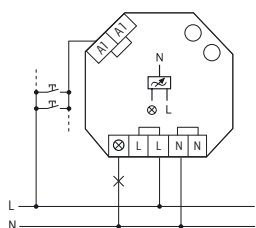


Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD61NPN-230V>

EUD61NPN-230V



Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum brightness or dimming speed. With switching operation for children's rooms and snooze function.

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for lamps up to 400 watts, depending on ventilation conditions. Dimmable 230 V LED lamps and dimmable energy saving lamps ESL dependent on the lamps electronics and the dimming technology, **see technical data page 29.**

Switching with soft start and soft OFF to protect lamps.

Control voltage, supply voltage and switching voltage 230 V ~ 50/60 Hz.

No minimum load required.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level. An interruption of control changes the direction of dimming.

The setting of the brightness level is stored after switching off (Memory).

In case of a power failure the switching position and the brightness level are stored. If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

With the top rotary switch %/dim speed either the dim speed can be adjusted or the minimum brightness level (completely dimmed down). The duration of soft-on and soft-off will be changed with the dimming speed.

The lower rotary switch determines in operation whether the automatic lamp detection 'AUTO' should act, or one of the special Comfort settings LC1 or LC2.

If the **MEM+** setting range is selected, the **memory function** is active and the last brightness level set is saved when the device is switched off. If the setting range **MEM-** is selected, the memory function is switched off and it is always switched on with maximum brightness. Dimmable energy-saving lamps must be operated on AUTO and MEM-.

AUTO allows the dimming of all lamp types.

LC1 is a comfort position for dimmable 230 V LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

LC2 like LC1, but with different dimming curves.

In positions LC1 and LC2 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

With special switching operation for children's rooms: 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.

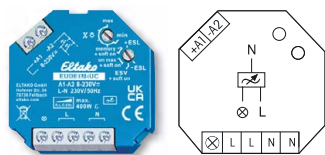
Snooze function: With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

Technical data page 29.

| | | | |
|----------------------|---|--------------------------|--------------------|
| EUD61NPN-230V | Universal dimmer switch, Power MOSFET up to 400 W | Art. No. 61100802 | 68,70 €/pc. |
|----------------------|---|--------------------------|--------------------|

MULTIFUNCTION UNIVERSAL DIMMER SWITCH EUD61M-UC

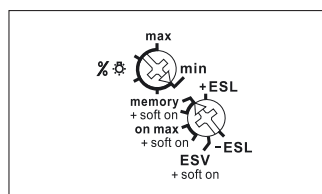


EUD61M-UC



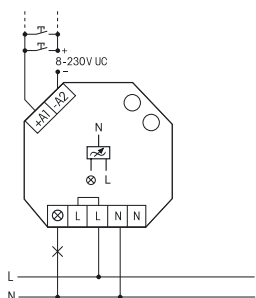
Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.1 watt only. With adjustable minimum brightness. With switching operation for children's rooms and snooze function.

Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
<https://eltako.com/redirect/EUD61M-UC>

Built-in device for installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for lamps up to 400 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics.

Zero passage switching with soft start and soft OFF to protect lamps.

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

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

A interruption of control changes the direction of dimming. The brightness level is stored after switching off in case the **function memory** is set. If the **function on max** is set, it always switches on at the maximum brightness level.

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Automatic electronic overload protection and over-temperature switch-off.

The minimum brightness level (completely dimmed down) can be adjusted with **the upper rotary switch** %⚙️, e.g. for dimmable energy saving lamps.

You can dim all lamp types in automatic mode.

Use the lower function rotary switch to select between five automatic mode functions: memory, memory+soft on, on max, on max+soft on and ESV+soft on.

+ESL is a convenience setting for energy saving lamps which must be switched on at high voltage for design reasons so that they can also be switched back on cold in dimmed state.

-ESL is a convenience setting for energy saving lamps which cannot be switched back on in dimmed state for design reasons. This is why memory is switched off in this position.

No inductive (wound) transformers may be used in +ESL and -ESL settings. In addition the maximum number of dimmable energy saving lamps may be lower than in automatic mode for design reasons.

Setting of function ESV same as 'memory+soft on' with setting of a release delay up to 90 minutes with the rotary switch %⚙️ if the manual off command is not given. Before time-out switch-off early warning function by dimming down within 1 minute.

Switching operation for children's rooms: 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.

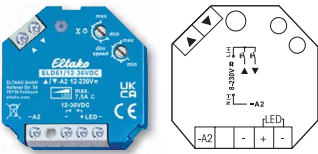
Snooze function: With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

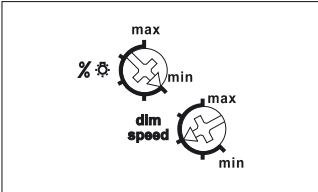
Technical data page 29.

| | | | |
|------------------|---|--------------------------|--------------------|
| EUD61M-UC | Multifunction universal dimmer switch, Power MOSFET up to 400 W | Art. No. 61100903 | 62,22 €/pc. |
|------------------|---|--------------------------|--------------------|

LED DIMMER SWITCH ELD61/12-36V DC

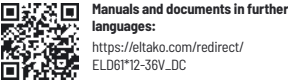
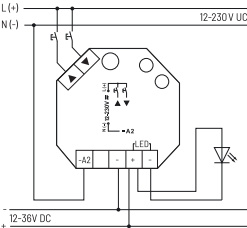


Function rotary switches



Standard setting ex works.

Typical connection



Technical data page 29.

ELD61/12-36V DC

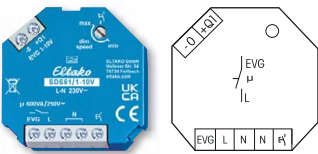


Power MOSFET for LED lamps 12-36 V DC up to 7.5 A, pulse width modulation PWM. Stand-by loss 0.1 Watt only. With adjustable minimum brightness and dimming speed. With switching operation for children's rooms and snooze function.

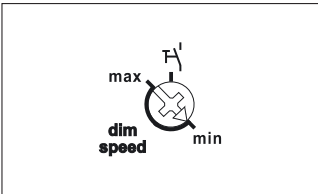
For installation. 45 mm long, 45 mm wide, 18 mm deep.
Dimmer switch for R- and LED loads up to 7.5 A depending on ventilation conditions.
Zero passage switching with soft start and soft OFF to protect lamps.
Supply voltage input 12 to 36 V DC, depending on the connected LED illumination.
A pulse resistant switching power supply unit is necessary.
Universal control voltage 8..230 V UC, electrically isolated from the supply voltage.
Either direction pushbuttons can be connected to ▲ ▼ or these terminals will be bridged and a pushbutton will be connected as an universal pushbutton.
With universal pushbutton: short commands switch on/off, permanent control changes the brightness to the maximum. An interruption of the control changes the dimming direction.
With direction pushbutton: switching and dimming on with ▲, turning and dimming off with ▼. A dual pulse with ▲ effects dimming on up to the maximum brightness with the set dimming speed (dimspeed). The set brightness level will be stored when turning off (Memory).
In case of power failure the switching position and the brightness level will be stored and will be switched on when supply voltage recurs.
Automatic electronic overload protection and overtemperature switch off.
The LED indicates an activation by a short flickering.
With the top rotary switch % the minimum brightness level (completely dimmed down) can be adjusted.
With the lower dim speed rotary switch, the dimming speed can be set. At the same time, soft-on and soft-off is changed.
With switching operation for children's rooms (universal or direction pushbutton ▲):
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 pressed without modifying the latest stored brightness level.
Snooze function (universal or direction pushbutton ▼): 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

| | | | |
|-----------------|---|-------------------|-------------|
| ELD61/12-36V DC | LED dimmer switch, Power MOSFET up to 7,5 A | Art. No. 61100865 | 62,50 €/pc. |
|-----------------|---|-------------------|-------------|

1-10V CONTROL DIMMER SWITCH SDS61/1-10V FOR ELECTRONIC BALLAST UNITS

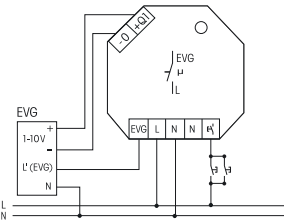


Function rotary switch



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
https://eltako.com/redirect/SDS61*1-10V

Technical data page 29.

SDS61/1-10V



1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Only 0.5 watt standby loss. With adjustable dimming speed. With switching operation for children's rooms and snooze function. With pushbutton or switch activation.

Built-in device for installation. 45 mm long, 45 mm wide, 33 mm deep.

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

Also adapted for LED driver with 1-10 V passive interface, without voltage source up to 0.6 mA, above this value an additional voltage source is necessary.

Switching voltage and control voltage 230 V.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

The load is switched on and off by a bistable relay at output EVG (electronic ballast units). Switching capacity for fluorescent lamps or LV halogen lamps with electronic ballast units 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Short-time control commands switch on/off, permanent control varies the brightness up to the maximum level. An interruption of control changes the direction of dimming.

The brightness level is stored after switching off.

In case of a power failure the switching position and the brightness level are stored.

If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

The dimming speed is adjustable **using the dimming speed rotary switch (only for pushbutton activation).**

If light switches cannot be replaced by light pushbuttons, the rotary switch can be set to the switch symbol at the right stop: When the closed switch is briefly opened, the light is dimmed until the switch is briefly opened again. The dimming direction is changed automatically at each of the two vertices. In addition the direction can be changed by opening the switch briefly twice.

Switching operation for children's rooms (only for pushbutton activation): 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 (only for pushbutton activation): 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. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

| | | | |
|--------------------|--|--------------------------|--------------------|
| SDS61/1-10V | 1-10 V control dimmer switch for electronic ballast units, 1 NO contact 600 VA | Art. No. 61100800 | 65,50 €/pc. |
|--------------------|--|--------------------------|--------------------|

UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCERS AND 1-10 V CONTROLLERS



| Type | EUD12NPN ¹⁾ EUD12D ¹⁾ EUD12DK ¹⁾ LUD12 ¹⁾ MFZ12PMD ¹⁾ | EUD61NPN ¹⁾ EUD61M ¹⁾ EUD61NP ¹⁾ EUD61NPL ¹⁾ | EUD12F ¹⁾ | EUD12NPN-BT ¹⁾ |
|---|--|---|---|--|
| Spacing of control connections/load | 6 mm | 6 mm EUD61NP: 3 mm | 6 mm | 6 mm |
| Incandescent and halogen lamps 230 V (R) | up to 400 W EUD12DK: up to 800 W | up to 400 W EUD61NPL: 200 W | up to 300 W | EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W |
| Inductive transformers (L) ²⁾³⁾ | up to 400 W EUD12DK: up to 800 W | up to 400 W (not EUD61NPL) | up to 300 W | EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W |
| Motor (L) | - | - | - | - |
| Capacitive transformers (C) ³⁾⁸⁾ | up to 400 W EUD12DK: up to 800 W | up to 400 W EUD61NPL: 200 W | up to 300 W | EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W |
| Dimmable 230 V LED lamps ⁵⁾⁶⁾⁹⁾ | Trailing edge up to 400 W Leading edge up to 100 W EUD12DK: Trailing edge up to 800 W Leading edge up to 200 W | Trailing edge up to 400 W, NPL: 200 W Leading edge up to 100 W, NPL: 40 W (not EUD61NP) | up to 300 W | EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W |
| Dimmable LED lamps 12-36 V DC | - | - | - | - |
| 1-10 V EVG | - | - | - | - |
| Maximum conductor cross-section (3-fold terminal) | 6 mm ² (4 mm ²) | 4 mm ² | 6 mm ² (4 mm ²) | 6 mm ² |
| Two conductors of same crosssection (3-fold terminal) | 2.5 mm ² (1.5 mm ²) | 1.5 mm ² | 2.5 mm ² (1.5 mm ²) | 2.5 mm ² |
| Screw head | slotted/crosshead, pozidriv | slotted/crosshead | slotted/crosshead, pozidriv | slotted/crosshead, pozidriv |
| Type of enclosure/terminals | IP50/IP20 | IP30/IP20 | IP50/IP20 | IP50/IP20 |
| Time on | 100% | 100% | 100% | 100% |
| Max./min. temperature at mounting location ⁴⁾ | +50°C/-20°C | +50°C/-20°C | +50°C/-20°C | +50°C/-20°C |
| Standby loss (active power) | 0.2 W LUD12: 0.1 W EUD12D und MFZ12PMD: 0.3 W | 0.2 W EUD61M: 0.1 W EUD61NPL, EUD61NP: 0.5 W | 0.5 W | 0.3 W |
| Control voltage | 12...230 V UC EUD12NPN/110-240V: 110-240 V AC | 8...230 V UC EUD61NPN-230 V und EUD- 61NP: 230 V | internal DC voltage | 230 V |
| Glow lamp current | 5 mA EUD12DK: - EUD12NPN/110-240V: - | - | - | - |
| Control current 230 V-control input (<5 s) | - | EUD61NP: 0.7 mA EUD61NPN-230V: 4(100) mA | - | 2.2 mA |
| Control current universal control voltage all control voltages (<5 s) 8/12/24/230 V (<5 s) | 10(100) mA - | - 2/3/7/4(100) mA | - - | - |
| Control current central 8/12/24/230 V (<5 s) | 3/5/10/4(100) mA | - | - | -/-/-2(100) mA |
| Max. parallel capacitance (approx. length) of single control lead at 230 V AC | 0.9 µF (3000 m) | 0.9 µF (3000 m) EUD61NP: 0.3 µF (1000 m) | - | 0.3 µF (100 m) |
| Max. parallel capacitance (approx. length) of central control lead at 230 V AC | 0.9 µF (3000 m) | - | - | 0.3 µF (100 m) |

* EVG = electronic ballast units; KVG = conventional ballast units⁴⁾ Secondary cable length with a maximum of 2 m. ¹⁾ For loads exceeding half the respective rated load, a ventilation distance of ½ module must be maintained from adjacent devices. For the EUD61, the switching capacity also depends on the ventilation conditions. ²⁾ Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacitive (electronic) transformers is not permitted! ³⁾ When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load. ⁴⁾ Affects the max. switching capacity. ⁵⁾ In the settings LED and ESL no wound (inductive) transformer must be dimmed. ⁶⁾ Increase of capacity for dimmable 230 V LED lamps and dimmable energy saving lamps ESL see page 17. ⁷⁾ Only 1 fan motor may be connected. ⁸⁾ For LED and 12 V halogen lamps. ⁹⁾ Usually applies to 230 V LED lamps. Different lamp electronics may result in restricted dimming areas, on/off problems and a limited maximum number of lamps (up to 10 units), especially if the connected load is very low (e.g. with 5 W LEDs). The comfort positions of the dimmer switches optimize the dimming range, which, however, only gives a maximum power up to 100 W. No inductive (wound) transformers may be dimmed in these comfort positions.

UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCERS AND 1-10 V CONTROLLERS

| Type | ELD61 ^{a)} | SDS12 SUD12 | SDS61 | MOD12D |
|---|----------------------|---|---------------------|---|
| Spacing of control connections/load | 6 mm | 6 mm | 3 mm | 6 mm |
| Incandescent and halogen lamps 230 V (R) | – | – | – | – |
| Inductive transformers (L) ²⁾³⁾ | – | – | – | – |
| Motor (L) | – | – | – | up to 300 W ⁷⁾ |
| Capacitive transformers (C) ³⁾⁸⁾ | – | – | – | – |
| Dimmable 230 V LED lamps ⁵⁾⁶⁾⁹⁾ | – | – | – | – |
| Dimmable LED lamps 12–36 V DC | ELD61: 7,5 A | – | – | – |
| 1–10 V EVG | – | 40 mA 600 VA | 40 mA 600 VA | – |
| Maximum conductor cross-section (3-fold terminal) | 4 mm ² | 6 mm ² (4 mm ²) | 4 mm ² | 6 mm ² (4 mm ²) |
| Two conductors of same crosssection (3-fold terminal) | 1,5 mm ² | 2,5 mm ² (1,5 mm ²) | 1,5 mm ² | 2,5 mm ² (1,5 mm ²) |
| Screw head | slotted/crosshead | slotted/crosshead, pozidriv | slotted/crosshead | slotted/crosshead, pozidriv |
| Type of enclosure/terminals | IP30/IP20 | IP50/IP20 | IP30/IP20 | IP50/IP20 |
| Time on | 100% | 100% | 100% | 100% |
| Max./min. temperature at mounting location ⁴⁾ | +50°C/-20°C | +50°C/-20°C | +50°C/-20°C | +50°C/-20°C |
| Standby loss (active power) | 0,1 W | 0,5 W | 0,5 W | 0,3 W |
| Control voltage | 12..230 V UC | 8..230 V UC | 230 V | 12..230 V UC |
| Glow lamp current | – | – | – | – |
| Control current 230 V-control input (<5 s) | – | – | 0,5 mA | – |
| Control current universal control voltage all control voltages (<5 s) 8/12/24/230 V (<5 s) | – 2/3/7/4(100) mA | – 3/5/10/4(100) mA | – – | 2/3/8/5(100) mA – |
| Control current central 8/12/24/230 V (<5 s) | – | 3/5/10/4(100) mA | – | 2/3/8/5(100) mA |
| Max. parallel capacitance (approx. length) of single control lead at 230 V AC | 0,3 µF (1000 m) | 0,3 µF (1000 m) | 0,06 µF (200 m) | 0,9 µF (3000 m) |
| Max. parallel capacitance (approx. length) of central control lead at 230 V AC | – | 0,3 µF (1000 m) | – | 0,9 µF (3000 m) |

* EVG = electronic ballast units; KVG = conventional ballast units^{a)} Secondary cable length with a maximum of 2 m. ¹⁾ For loads exceeding half the respective rated load, a ventilation distance of ½ module must be maintained from adjacent devices. For the EUD61, the switching capacity also depends on the ventilation conditions. ²⁾ Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, **furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed.** Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacitive (electronic) transformers is not permitted! ³⁾ **When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.** ⁴⁾ Affects the max. switching capacity. ⁵⁾ In the settings LED and ESL no wound (inductive) transformer must be dimmed. ⁶⁾ Increase of capacity for dimmable 230 V LED lamps and dimmable energy saving lamps ESL see page 17. ⁷⁾ Only 1 fan motor may be connected. ⁸⁾ For LED and 12 V halogen lamps. ⁹⁾ Usually applies to 230 V LED lamps. Different lamp electronics may result in restricted dimming areas, on/off problems and a limited maximum number of lamps (up to 10 units), especially if the connected load is very low (e.g. with 5 W LEDs). The comfort positions of the dimmer switches optimize the dimming range, which, however, only gives a maximum power up to 100 W. No inductive (wound) transformers may be dimmed in these comfort positions.

According to DIN VDE 0100-443 and DIN VDE 0100-534, the installation of a surge arrester (SPD) is mandatory.
ELTAKO offers suitable, standard-compliant surge arresters of types 1, 2, and 3 – see Chapter 8, "Surge Arresters."

The Eltako logo, featuring the word "Eltako" in a stylized, cursive blue font.

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