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## Universal dimmer switch Bluetooth EUD12NPN-BT/300W-230V

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

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

### ELTAKO Connect App download:



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

**Universal dimmer switch with integrated timer, Bluetooth and ELTAKO Connect app. Power MOSFET up to 300W. 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.**

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 and the and the dimming technology.

### 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.

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.

The dimmer switch is set via 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. Scan the QR code on the operating instructions, the app will guide you through

the learning process. 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.

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

### Operation via the ELTAKO Connect app:

#### Basic settings:

#### Local pushbutton input (A1)

**Auto** (delivery status): Automatic detection of universal pushbutton / direction pushbutton (with direction pushbutton diode RTD)

**Directional pushbutton:** Manual switching to direction pushbutton (with direction pushbutton diode).

**Universal pushbutton:** Manual switching to universal pushbutton.

#### Operating mode

**Auto** (delivery status): 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 has priority. The **motion detector, light alarm clock and snooze switch** are active and can be configured.

#### Motion detector

**No residual brightness:** No residual brightness when the control input BM is no longer activated and the off delay time (if set) has expired.

**With residual brightness:** With adjustable residual brightness when the control input BM is no longer activated and the off delay time (if set) has expired.

**Residual brightness via switching program:** Same as 'With residual brightness', but in this setting you can also switch 'edit' with residual brightness on and off under programs.

**Residual brightness via ZE and ZA:** Same as 'No residual brightness', in addition ZE switches on with the set residual brightness and ZA switches off.

**No residual brightness (semi-automatic):** The motion detector only switches off as soon as the control input BM is no longer activated

and the off delay time (if set) has expired.

**Light alarm clock**  
**Programs:** The light alarm clock can only be switched on via a switching program. When switching on (with the motion detector set to OFF), it switches on after approx. 1 second with the lowest brightness and slowly dims up without changing the last saved brightness level. The duration of the running time can be set from 1 to 240 minutes in 1-minute increments.

**Program and ZE:** Same as 'Programs', but the light alarm clock can also be switched on by briefly clicking on ZE.

**Program and UT/RT:** Same as 'Programs', but the light alarm clock can also be started by double-clicking the universal button/direction button 'on'.

**Snooze function**  
**Programs:** Switch on the snooze switch only via a switching program. When switching off (with the motion detector set to OFF), the lighting is dimmed from the current dimming setting to the minimum brightness and switched off. You can switch it off at any time during the dimming process by briefly pressing the button. A long press during the dimming process dims up and ends the snooze switch. The running time can be set from 1 to 240 minutes in 1-minute increments.

**About program and ZA:** Like 'Programs', in addition the snooze switch can be switched on by briefly clicking on ZA.

**Program and UT/RT Off:** Same as 'Programs', in addition the snooze switch can be started by double-clicking the universal button/direction button 'off'.

**On:** Permanent ON. Switching programs without function.

**Off:** Permanent OFF. Switching programs without function.

**TI | Impulse generator starting with pulse:** Clock generator with adjustable switch-on and switch-off time from 0.1 seconds to 9.9 minutes. The maximum brightness can be adjusted from 4 to 100%. Both central inputs and BM have no function.

**Relay function (ER):** switching relay, the brightness can be adjusted from 4 to 100%. The duration for soft on/off can be set under 'Dimming behavior'. Both central inputs, BM and switching programs without function.

### **ESV | Impulse switch with off delay:**

Universal dimmer switch with adjustable off delay from 1 to 120 minutes in 0.5 minute increments. Switch-off warning at the end can be selected by dimming down and can be set from 0 to 3 minutes in 1-minute increments. Both central inputs active. BM and switching programs without function.

**Staircase timer switch (TLZ):** Staircase timer switch with switchable switch-off warning by dimming down. Off delay adjustable from 1 to 120 minutes in 0.5 minute increments. Within the first second after switching on or after switching on, the off delay time can be extended by briefly pressing the button up to 3 times (pumping). Each key adds the set time once. Switch-off warning at the end can be selected by dimming down and can be set from 0 to 3 minutes in 1-minute increments. Activation of the button permanent light by pressing a button on the local control input for longer than 1 second (1x flickering), deactivation by pressing a button on the local control input for longer than 2 seconds. The button continuous light can be set from 0 to 10 hours in 0.5 hour increments. The control inputs ZE and BM are used with short commands to switch on and start the off-delay time. If the control is continuous, the off-delay time is stopped. You can always switch off via ZA.

**MIN:** Universal dimmer switch, switches to the set minimum brightness when the control voltage is applied. During the set dimming time of 1 to 120 minutes, dimming occurs to maximum brightness. When the control voltage is removed, the system switches off immediately, even during the dimming time. Both central inputs active. BM and switching programs without function.

**MMX:** Function and parameters like 'MIN', but when the control voltage is removed, it dims down to the set minimum brightness. It then switches off.

### **Dimming behavior**

**Minimum brightness:** Setting the minimum brightness from 4 to 90%. The minimum brightness must always be 10% lower than the set maximum brightness.

**Maximum brightness:** Setting the maximum brightness from 14 to 100%. The maximum brightness must always be 10% higher than the set minimum brightness.

**Send brightness:** Dim to the minimum/ maximum brightness currently set in the app without changing the memory value. When dimming, the currently set dimming speed in the app is taken.

### **Dimming curves**

**Auto** (delivery status): Allows dimming of all types of lamps. **Inductive (wound) transformers** may only be used in this position!

**Leading edge:** LC1-LC3 are comfort positions with different dimming curves for dimmable 230V 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 230V LED lamps, which cannot be dimmed far enough on Auto.

**Dimming speed:** Setting the dimming speed.

**Switch-on speed:** Setting the switch-on speed.

**Switch-off speed:** Setting the switch-off speed.

### **Switch-on behavior**

**Use memory value:** The memory value corresponds to the last dimming value set. If the memory value is deactivated, dimming always occurs to the adjustable switch-on value.

**Switch-on brightness** (only with activated memory value): Some lamps require an operating brightness to switch on. It is dimmed to the switch-on value and then dimmed to the memory value within the switch-on time. The switch-on time can be set from 0.1 to 5.0 seconds in 0.1 second increments.

**Switch-on value:** Setting the switch-on value.

### **Programs**

**Edit programs:** Overview of all 10 programs. By tapping the button, programs are visibly activated and deactivated. By tapping on a program, it can be configured.

**Program active:** Activate or deactivate the program.

### **Channel settings**

**On:** Turns on the dimmer switch at the set switch-on speed. The 'Auto' operating mode must be activated for this.

**Off:** Turns off the dimmer switch at the set turn-off speed. The operating mode 'Auto' or 'TI | Clock generator starting with pulse must be activated for this.

**On with dimming value in %:** Switches on the dimmer switch with the set dimming value

and the set switch-on speed. The 'Auto' operating mode must be activated for this.

**On with memory value:** Switches on the dimmer switch with the last saved memory value and the set switch-on speed. The 'Auto' operating mode must be activated for this.

**Light alarm clock:** Starts the light alarm clock with the set parameters. The 'Auto' operating mode must be activated for this.

**Snooze:** Starts the snooze with the set parameters. The 'Auto' operating mode must be activated for this.

**On with residual brightness (BM):** Switches on the dimmer switch with the set residual brightness. The 'Auto' operating mode and the BM mode 'Residual brightness via switching program' or 'Residual brightness via ZE and ZA' must be activated for this.

**Off with residual brightness (BM):** Dims the dimmer switch to the set residual brightness. The 'Auto' operating mode and the BM mode 'Residual brightness via switching program' or 'Residual brightness via ZE and ZA' must be activated for this.

**TI | Impulse generator starting with pulse:** Starts the impulse generator with the set parameters. The operating mode 'TI | Impulse generator starting with pulse must be activated for this.

**Active days:** Selection of the days of the week on which the switching program should switch. At least one day of the week must be selected per program.

### **Trigger**

**Time:** Setting the time at which the switching program should switch.

**Random mode:** When random mode is switched on, all switching times are randomly shifted by up to 15 minutes. Switch-on times to earlier and switch-off times to later.

**Astro:** Activates automatic switching with sunrise or sunset. The switch-on or switch-off time can be delayed by up to  $\pm 2$  hours. In addition, a time difference of up to  $\pm 2$  hours influenced by the solstices can be entered. For the astro function, the correct location must be set under 'Location'. You can find a list of German cities at the end of the operating instructions.

**Time offset solstice:** Setting the time offset during summer and winter time. The time indicates the time offset from sunset. The sunrise is inverted accordingly.

Adjustable from -2 hours to 2 hours in 10 minute increments.

### **Device**

**Device PIN:** Manual or automatic setting of the date, time, time zone and summer/winter time possible.

**Location:** Manual or automatic entry of the location possible.

**Device PIN:** Changing the device PIN (delivery status 123123) is possible.

**Bluetooth:** Activation of permanent visibility possible. By activating permanent visibility, Bluetooth remains active on the dimmer switch and does not need to be activated manually before establishing the connection.

**Factory settings:** Choose between deleting all programs, resetting the dimming settings, resetting the Bluetooth settings and resetting to factory settings.

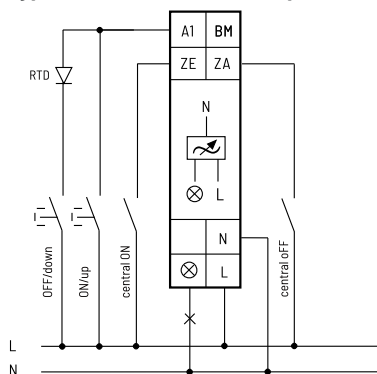
## Longitude (LON) and latitude (LAT) in Germany

time zone (GMT): +1, summer time: +2

	LAT	LON
Berlin	52	13
Bremen	53	9
Dresden	51	14
Düsseldorf	51	7
Erfurt	51	11
Hamburg	53	10
Hannover	52	10
Kiel	54	10
Magdeburg	52	12
Mainz	50	8
Munich	48	11
Potsdam	52	13
Saarbrücken	49	7
Schwerin	54	11
Stuttgart	49	9
Wiesbaden	50	8

more places on [www.maps.google.de](http://www.maps.google.de)

## Typical connection directional pushbutton RT



### Technical data

Dimmable 230 V LED lamps	up to 300 W <sup>5)6)</sup>
Incandescent and halogen lamps <sup>1)</sup> 230 V (R)	up to 300 W <sup>6)</sup>
Inductive transformers (L)	up to 300 W <sup>2)3)6)</sup>
Electronic transformers (C)	up to 300 W <sup>2)3)6)</sup>
Dimmable energy saving lamps ESL	up to 300 W <sup>5)6)</sup>
Max./min. temperature at mounting location	+50°C/-20°C <sup>4)</sup>
Standby loss (active power)	0.3 W

<sup>1)</sup> For lamps with a maximum of 150 W.

<sup>2)</sup> Per dimmer 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. Possibly the dimmer switch will be destroyed!** No load-switching-off on the secondary part is allowed. The parallel operation of inductive (wound) and capacitive (electronic) transformers is not allowed!

<sup>3)</sup> **When calculating the load 20% loss has to be considered for inductive (wound) transformers and 5% loss in addition to the lamp load.**

<sup>4)</sup> Affects the maximum switching power.

<sup>5)</sup> Usually applies for dimmable energy saving lamps and dimmable 230 V LEDs. Due to differences in the lamps electronics, there may be limited dimming range, switch on and off problems dependent on the manufacturer and a restriction on the maximum number of lamps; especially if the connected load is very low (for 5 W-LEDs). The comfort positions of leading edge and trailing edge optimise the dimming range, but this only results in a maximum output of up to 100 W. In these comfort settings no inductive (wound) transformers should be dimmed.

<sup>6)</sup> With a load of more than 100 W, a ventilation distance of ½ module to adjacent devices must be maintained.



The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex factory.

### Manuals and documents in further languages:



[http://eltako.com/redirect/EUD12NPN-BT\\*300W-230V](http://eltako.com/redirect/EUD12NPN-BT*300W-230V)



Frequency 868.3 MHz

Transmit power max. 10 mW

**Hereby, ELTAKO GmbH declares that the radio equipment type EUD12NPN-BT/300W-230V is in compliance with Directive 2014/53/EU.**

**The full text of the EU declaration of conformity can be accessed via the QR code or the internet address under 'Documents'.**

**Must be kept for later use!**

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48/2023 Subject to change without notice.

## Typical connection universal pushbutton UT

