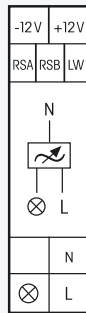


FUD12NPN-12V DC



Universal dimming actuator 1 channel, power MOSFET up to 500W, energy saving lamps ESL up to 100W and LED up to 100W. Only 0.3 watt standby loss. With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep. Universal dimming actuator for R, L and C loads up to 500 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts. Automatic detection of load R+L or R+C. ESL and LED is manually settable. **Zero passage switching with soft ON and soft OFF to protect lamps.**

Switching voltage 230V. No minimum load required. The 12V DC supply voltage of the complete RS485 bus is mainly powered at 6W, 12W or 24W by a switch mode power supply unit SNT12-12V DC that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W. The brightness level is stored on switch-off (memory). In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored. Automatic electronic overload protection and overtemperature switch-off. **Connection to the Eltako RS485 bus, terminals RSA and RSB.**

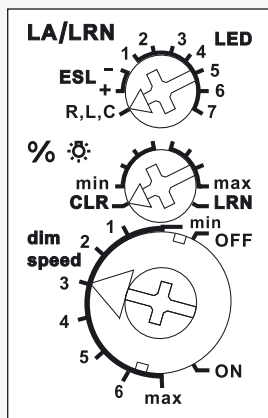
Up to a total of 128 actuators can be added in this way.

The top rotary switch LA/LRN is first required for teach-in and in operation, it defines what load type the dimming curve should be set to:

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically.

The settings +ESL and -ESL consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed.

Function rotary switches



In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at www.eltako.com/dimming_curve/LED_gb.pdf. In these settings no wound (inductive) transformer must be dimmed. The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable **with the middle % rotary switch**. In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons. The dimming speed is adjustable using the **bottom dimming speed rotary switch**. At the same time, the soft ON and soft OFF periods are changed.

The pushbuttons can be taught-in either as direction switches or universal switches: When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal switch**, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the hand-held transmitter. The contact of the timer must connect terminals +12V and LW at least 0.2 seconds. At the settings ESL no switching for light alarm clocks is possible.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

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

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS.

One or several FUD12NPN devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught-in on the FUD. Up to four brightness values are retrievable using a direct light scene pushbutton (pushbutton with double rocker, top left = light scene 1, top right = light scene 2, bottom left = light scene 3 and bottom right = light scene 4) and/ or using a sequential light scene pushbutton (pushbutton or one half of a double pushbutton, press top = next light scene, press bottom = previous light scene).

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.