

RS485 bus constant light controller FKR12UD-12V DC with universal dimmer switch

Universal dimming actuator with 1 channel, Power MOSFET up to 500W, ESL up to 100W. Only 0.3 watt standby loss. Motion-dependent and brightness-dependent light control of dimmable energy saving lamps ESL and incandescent and halogen lamps with the wireless motion and brightness sensor FBH or wireless outdoor brightness sensor FAH.

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

Universal dimmer switch for R, L and C loads up to 500 watt, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watt. Automatic detection of load R+L or R+C.

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

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

Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako RS485 Bus, terminals RSA and RSB. Up to a total of 128 channels can be added in this way.

The wireless constant light controller FKR12UD receives its signals from one or several wireless sensors FAH or FBH and then controls the output or switches the light on or off. Since incandescent lamps and halogen lamps have a large infrared percentage like daylight, these lamps can only be controlled by measuring the brightness outside the building by a wireless outdoor brightness sensor acting as master.

Motion detection takes place inside the room by a FBH acting as slave. Dimmable energy saving lamps require only a FBH inside the room for brightness control and motion detection.

Operation modes BA:

1 = fully automatic ESL (for brightness-dependent and motion-dependent switch-on and switch-off of ESL),

2 = semiautomatic ESL (only for brightness-dependent and motion-dependent switch-off of ESL),

3 = switch-off of ESL is brightness-dependent (only for brightness-dependent switch-off of ESL, the motion sensor inside the FBH is then inactive),

4 = fully automatic incandescent/halogen lamps,

5 = semiautomatic incandescent/halogen lamps.

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example.

Several FBHs can be taught-in in a FKR12UD. As long as one of the motion detection sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only a FBH in operation mode BA 1, 2 or 3, otherwise a FAH provides constant light control.

The FBHs and FAHs can also be taught-in in several FKR12s. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent FKR12 systems can be installed simultaneously.

To teach-in wireless switches FT4 and wireless hand-held transmitters FHS8 and FHS12, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker.

A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'. When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released.

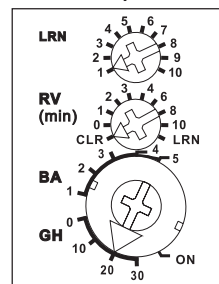
Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

The beamer brightness can additionally be taught-in in a further universal switch.

In addition to the beamer brightness the minimum brightness and the brightness for emergency lighting can be set and stored.

As long as the control input NB is connected to +12V DC, it is dimmed to the set brightness for emergency lighting. All wireless signals are ignored then.

Function rotary switches

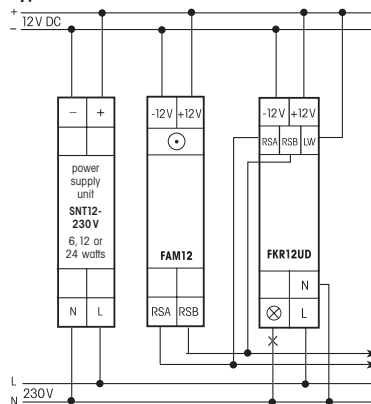


The upper rotary switch LRN is required for teach-in and for setting the base brightness.

The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes, provided a FBH is available. There is also an additional 1 minute of FBH.

The base brightness GH dependent on use of the room is set with the lower rotary switch plus the upper rotary switch adding the adjusted values. The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21.

Typical connection



Teaching-in wireless sensors in wireless actuators

All sensors such as wireless pushbuttons, wireless hand-held transmitters, wireless transmitter modules, wireless window/door contacts, wireless timers and wireless motion and brightness sensors must be taught-in in the actuators (receivers with dimmers, switches and relays) so that they can detect and execute commands.

Teaching-in actuator FKR12UD-12V DC

Also the mains connection N/L is required for teach-in.

The teach-in memory is empty on delivery from the factory. If you are unsure whether the teach-in memory contains something or not, you must first clear the memory contents completely:

Set the middle rotary switch to CLR.

The LED flashes at a high rate. Within the next 10 seconds, turn the upper rotary switch three times to the right stop (turn clockwise) and then turn back away from the stop.

The LED stops flashing and goes out after 2 seconds. All taught-in sensors or sensors of a channel are cleared.

Clear individual taught-in sensors in the same way as in the teach-in procedure, except that you set the middle rotary switch to CLR instead of LRN, and operate the sensor. The LED previously flashing at a high rate goes out.

Teaching-in sensors, operation modes and brightness values

In the constant light controller not only sensors are taught-in, but also operation modes and brightness values. Therefore, please keep to the order A to C.

A: Teaching-in sensors

- Set the top rotary switch to the required teach-in function:
 - teach-in universal switch to call the brightness for a beamer presentation if required
 - teach-in 'central OFF', if required
 - teach-in 'central ON', if required
 - teach-in direction switch. Top 'switch on and dim up' and bottom 'switch off and dim down'
 - teach-in master FBH or FAH
 - teach-in slave FBHs
- Set the middle rotary switch to LRN. The LED flashes at a low rate.
- Operate the sensor to be taught-in. The LED goes out. Operate the direction switch only above or below.

To teach-in further sensors, turn the middle rotary switch briefly away from position LRN. Continue the procedure from pos 1.

B: Storage of the operation mode

- Set LRN to 9.
- Set the bottom rotary switch to 1, 2, 3, 4 or 5:
 - fully automatic ESL (for brightness-dependent and motion-dependent switch-on and switch-off of ESL),
 - semiautomatic ESL (only for brightness-dependent and motion-dependent switch-off of ESL),

3 = switch-off of ESL is brightness-dependent (only for brightness-dependent switch-off of ESL, the motion sensor inside the FBH is then inactive),

4 = fully automatic incandescent/halogen lamps,

5 = semiautomatic incandescent/halogen lamps.

- Turn the middle rotary switch to LRN. The LED flashes 1 second, then it goes out.

C: Storage of the definitely adjustable brightness values

- Set LRN to 10.
- Turn the middle rotary switch away from position LRN and set the bottom rotary switch to 1, 2 or 3:
 - Brightness for the beamer presentation**
 - Minimum brightness.** The lamps are dimmed down depending on the brightness to the adjusted minimum brightness. Below is completely switched off.
 - Brightness for emergency lighting.** As long as the control input NB is connected to +12V DC, it is dimmed to the set brightness for emergency lighting. All wireless signals are ignored then.
- Press and hold down the upper part of the direction switch that is already taught-in for some time to switch on and adjust the required brightness.

- Turn the middle rotary switch to LRN. The LED flashes 1 second, then it goes out.

To store further brightness values, turn the middle rotary switch away from position LRN. Continue the procedure from pos 2.

After teach-in A, B and C, set the middle rotary switch to the required off delay RV. Adjust the required basic brightness GH with the other rotary switches. Both settings can be changed at any time.

When an actuator is ready for teach-in (the LED flashes at a low rate), the very next incoming signal is taught-in. Therefore, make absolutely sure that you do not activate any other sensors during the teach-in phase.

Important reminder!

This electrical equipment may only be installed by skilled electricians otherwise fire hazard or danger of electric shock exists!