

RS485 bus dimming actuator Constant light controller FKR12/1-10V for electronic ballast units 1-10V

Dimming actuator with 1 channel, 1 NO contact not potential free 600VA and 1-10V control output 40mA. Only 0.9 watt standby loss. Motion-dependent and brightness-dependent light control with the wireless motion/brightness sensor FBH.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 modul = 18mm wide, 58mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Zero passage switching to protect contacts.

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 level are stored and may be switched on when the power supply is restored.

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

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.

Function of FKR12

The wireless constant light controller FKR12 receives its signals from one or several wireless sensors FBH via a wireless antenna module FAM12-12V DC and then controls the 1-10V output or switches the light on or off.

3 operation modes **BA** can be selected:
1 = fully automatic (switch-on and switch-off is brightness and motion controlled),
2 = semi-automatic (only switch-off is brightness and motion controlled) and
3 = switch-off is brightness controlled (motion sensor is not active).

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 FBH can be taught-in in a FKR12. As long as one of the motion detection sensors FBH 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 1 FBH (Master) is used for the constant light control.

The FBHs 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 and wireless hand-held transmitters, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. 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.

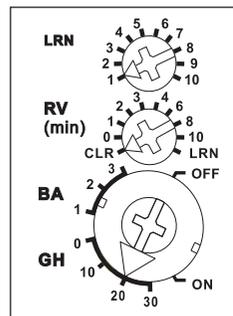
Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

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

In addition to the beamer value 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.

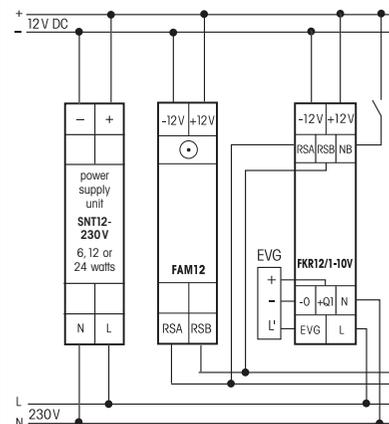
The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes. There is also an additional 1 minute of FBH.

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.

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.

Typical connection



Teaching-in Wireless Sensors in Wireless Actuators

All sensors must be taught-in in the actuators so that they can detect and execute commands.

Teaching-in actuator FKR12/1-10V

 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 or 3:
 - fully automatic** (switch-on and switch-off is brightness and motion controlled)
 - semi-automatic** (only switch-off is brightness and motion controlled)
 - brightness controlled switch off**
- 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 Note!

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