

## RS485 bus switching actuator ventilation relay F4L12-12V DC

4-channel switching actuator, 1 NO contact per channel 4 A/250V AC, potential free from the power supply, with DX technology. Only 0.2 watt standby loss.

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

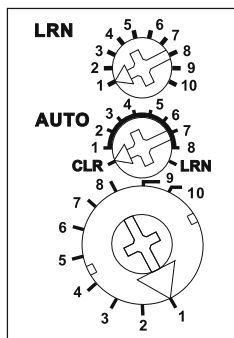
State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

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

**Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230V A/C voltage 50Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.**

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. When all 3 relays of the F4L12 are switched on, 0.7 watt are required.

### Function rotary switches



The top rotary switch is required for teach-in.

Middle rotary switch for operating modes:

**AUTO1:** The 4 contact surfaces are assigned 'exclusively' when a wireless pushbutton with double rocker is taught-in as follows: top left closes Contact 1; bottom left closes Contact 2; top right closes Contact 3; bottom right closes Contact 4 (switch-off function). All other

contacts are opened. Wireless window/door contacts FTK or Hoppe window handles closes Contact 4 'exclusively' when a window is opened. A wireless transmitter module can also be taught-in to close Contact 4 'exclusively'.

**AUTO2:** Same as AUTO1, but a wireless pushbutton with double rocker is assigned 'adding': top left closes Contact 1; bottom left closes Contacts 1 and 2; top right closes Contacts 1, 2 and 3; bottom right closes Contact 4 (switch-off function). All other contacts are opened.

**AUTO3:** Activating with wireless CO<sub>2</sub> sensor. The contacts close 'exclusively'.

**AUTO4:** Same as AUTO3, but activated by the wireless humidity sensor.

**AUTO5:** Same as AUTO3, but activated by the wireless temperature sensor.

**AUTO6:** Same as AUTO3, but the contacts close 'adding'.

**AUTO7:** Same as AUTO4, but the contacts close 'adding'.

**AUTO8:** Same as AUTO5, but the contacts close 'adding'.

The bottom and top rotary switches are used in service to activate sensors AUTO3 to AUTO8 in order to set the switch-on threshold for Contact 1 and to set the addition value at which Contacts 2 and/or 3 close.

### Overview of switch-on thresholds

(lower rotary switch):

**CO<sub>2</sub> (ppm):**

1 = 700 ppm; 2 = 800 ppm; 3 = 900 ppm;  
4 = 1000 ppm; 5 = 1200 ppm; 6 = 1400 ppm;  
7 = 1600 ppm; 8 = 1800 ppm; 9 = 2000 ppm and 10 = 2200 ppm.

**Humidity (%):**

1 = 10 %, 2 = 20 %, ... 10 = 100 %.

**Temperature (°C):**

1 = 20°C, 2 = 22°C, 3 = 24°C, ...  
10 = 38°C.

### Overview of addition values

(upper rotary switch):

**CO<sub>2</sub> difference:**

1 = 50 ppm, 2 = 100 ppm, 3 = 150 ppm,  
... 10 = 500 ppm. Fixed hysteresis: 50 ppm.

**Humidity difference:**

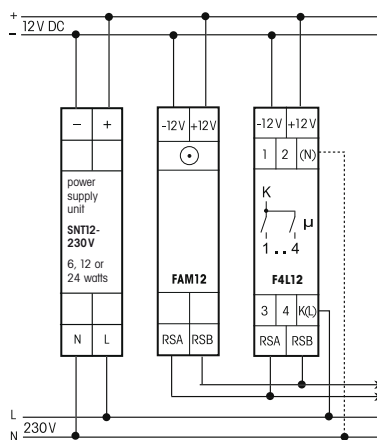
1 = 5 %, 2 = 10 %, 3 = 15 %, ...  
10 = 50 %. Fixed hysteresis: 5 %.

**Temperature difference (K):**

1 = 1K, 2 = 2K, 3 = 3K, ... 10 = 10K.  
Fixed hysteresis: 1K.

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



### Technical data

Rated switching capacity each contact	4 A/250V AC
230V AC fan	max. 250 VA per channel
Standby loss (active power)	0.2 W

### 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 F4L12-12V DC

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

1. If an FT4 or an FSM is required to act as a pure off switch, then set the top rotary switch to Position 2, if not set it to Position 1.

- 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.

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

After teach-in, set the middle rotary switch to the required operating mode. With AUTO3 to AUTO8, also set the required switch-on threshold with the bottom rotary switch and set the addition value with the top rotary switch.



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.