Eltako ELECTRONICS

RS485 bus switching actuator CE

Mains disconnection relay FFR12-12 V DC

Switching actuator mains disconnection relay, 1+1 NO contacts potential free 16 A/250 V AC, incandescent lamps 2000 watts.
Only 0.1 watt standby loss.

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

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

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

The mains disconnection relay FFR12-12 V DC interrupts the power supply of 1 or 2 circuits and prevents interfering electromagnetic fields.

To enable zero passage switching in patented Eltako Duplex technology, L must normally be connected to K(L) and N to (N). N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 6 W, 12 W or 24 W by a switch mode power supply unit SNT12-12 V DC that is only 1 or 2 pitch units wide. When both relays of the FFR12 are switched on, 0.5 watts are required.

Maximum current as the sum of both contacts 16 A at 230 V.

This mains disconnection relay is switched in the circuit distributor downstream of the 16 A circuit breaker which protects up to two circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless pushbuttons or hand-held wireless transmitters. Contact L-2 can store a switch-off delay of 10 to 90 minutes.

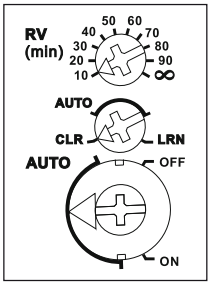
If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

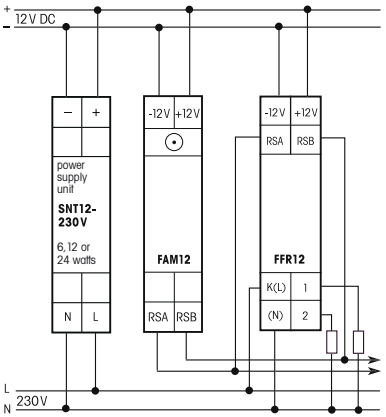
10 teach-in positions of the FFR12 plus the switch-off delay give the user plenty of scope to define the settings the mains disconnection relay.

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.

Function rotary switches



Typical connection



<u>Teaching-in wireless sensors in wireless actuators</u>

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

<u>Teaching-in actuator FFR12</u>

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. Set the top rotary switch to the required teach-in function:
   10 = universal switch, switch on K1;
   20 = universal switch, switch off K1;
   30 = universal switch, switch on K2;
   40 = universal switch, switch off K2;
   50 = teach in 'central ON';
   60 = teach in 'central OFF';
   70 = double pushbutton, top ON, bottom OFF, K1 left and K2 right;
   80 = double pushbutton, bottom ON, top OFF, K1 left and K2 right;
   90 = double pushbutton, top ON, bottom OFF, K2 left and K1 right;
   ∞ = double pushbutton, bottom ON, top OFF, K2 left and K1 right;
   Double pushbuttons with 70, 80, 90 and ∞ are always taught-in completely no matter which pushbutton is pressed.
2. Set the middle rotary switch to LRN. The LED flashes at a low rate.
3. 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, the top rotary switch is set for time delay (RV) for Contact 2: 10, 20, 30, 40, 50, 60, 70, 80, 90 or ∞ minutes.

The middle rotary switch is set to AUTO.

The bottom rotary switch is set to AUTO in normal mode.

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!