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Eltako ELECTRONICS

RS485 bus actuator

4-channel impulse switch
F4SR14-LED

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

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

4-channel impulse switch with integrated relay function, 1 NO contact per channel up to 400 W 230 V LED, incandescent lamps 1800 watts, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

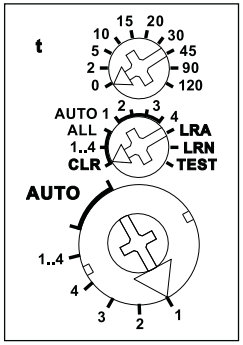
230 V LED lamps can be switched up to 400 W and up to a maximum inrush current of 25 A/100 ms per NO contact.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz 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.

When all 4 relays of the F4SR14-LED are switched on, a power of 1 watt is required.

If supply voltage fails, the device is switched off in defined mode.

Function rotary switches



The channels can be taught-in as ES and/ or ER channel separately from each other.

Scene control:
Several channels of one or several F4SR14-LED devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene button.

Central commands on PC are sent using the Wireless Building Visualisation and Control Software GFVS. To do this, teach-in one or several F4SR14-LED devices.

Use the rotary switches to teach-in the pushbuttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

When **FBH wireless motion/brightness sensors (masters)** are taught-in, the switching threshold is defined separately for each channel using the upper rotary switch. The switching threshold switches the lighting on or off depending on the brightness (in addition to motion) (from approx. 30 lux in position 0 to approx. 300 lux in position 90).

If **FBH devices (slaves)** are taught-in in Position 120, they are only evaluated as motion detectors.

Several FBH devices are interlinked per channel. If an FBH signals 'motion', the NO contact closes. Only when all FBH devices signal 'no motion' does the NO contact open after the preset RV time. When an FBH is taught-in, the RV time only applies to the FBH.

Press the ON side of a direction push-button for 2 seconds to switch it on permanently. Signals are not evaluated by the FBH.

Press the OFF side of a direction pushbutton for 2 seconds to switch it off permanently. Signals are not evaluated by the FBH.

Press the direction pushbutton briefly to re-evaluate FBH signals.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0 lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off.
An additionally set RV time is not taken into account.

Only one FBH (masters) or FAH is taught-in per channel. However, one FBH (masters) or FAH can be taught-in in several channels.

When wireless window/door contacts FTK oder Hoppe window handles are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:

AUTO 1 = window closed then output active.

AUTO 2 = window open then output active.

In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.

After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

When **FRW** wireless smoke alarms are taught-in, they are interlinked per channel.

When an FRW signals 'smoke', the NO contact closes. Only after all FRW devices signal 'no smoke' does the NO contact open.

When eco **water probes** (Art. No. 55080) or con **floor water probes** (Art. No. 78142) are taught-in with FTM wireless transmitter (Art.-No. 78143) from AFRISO, a variety of functions can be set using the middle rotary switch in Positions AUTO 1 to AUTO 4.

AUTO 1 = 'no water', then NO contact closed.

AUTO 2 = 'water', then NO contact closed.

In Positions AUTO 3 and AUTO 4 the water probes taught-in to a single channel are interlinked automatically. With AUTO 3, all water probes must signal 'no water' before the NO contact closes. The NO contact opens when a water probe signals 'water'.

With AUTO 4, the NO contact closes when a water probe signals 'water'. Only when all water probes signal 'no water' does the NO contact open.

An additionally set RV time is ignored.

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

Technical data

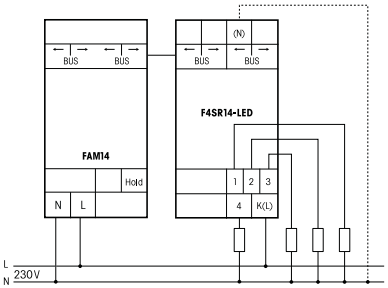
Rated switching capacity each contact	8 A/250 V AC
230 V LED lamps [2]	400 W
Incandescent lamp and halogen lamp load [1] 230 V	1800 W
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	1000 VA
Fluorescent lamp load with KVG* shunt-compensated or with EVG* [2]	500 VA
Compact fluorescent lamps with EVG* and energy saving lamps	15 x 7 W 10 x 20 W
Standby loss (active power)	0.1 W

[1] Applies to lamps of max. 150 W.

[2] I on ≤ 25 A

* EVG = electronic ballast units;
KVG = conventional ballast units

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 F4SR14-LED

The teach-in memory is clear on delivery from the factory. To ensure that a device was not previously taught-in, **clear the complete memory:**

Turn the middle rotary switch to ALL (or to CLR 1..4) if you only want to clear one channel and also turn the lower rotary switch to the required channel). The LED flashes at a high rate. Within 10 seconds, turn the upper rotary switch

three times to right stop (turn clockwise) and back again.
The LED stops flashing and goes out after 2 seconds. All taught-in sensors/ probes or channel sensors/probes 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. Select the required Channel 1 to 4 or 1..4 using the lower rotary switch.
2. Use the upper rotary switch to select the required teach-in function.
   0 = teach in 'direction pushbutton';
   Rocker is completely taught-in automatically when operating the pushbutton. The side on which the pushbutton is first operated is defined for switching on, the other side for switching off.
   5 = teach in 'universal pushbutton ES';
   10 = teach in 'universal pushbutton ER';
   15 = teach in 'central control push-button ON' with priority;
   20 = teach in 'central control push-button OFF' with priority;
   Central buttons have priority as long as they are pressed.
   30 = teach in 'scene pushbutton';
   Scene pushbuttons (double rocker) are taught-in in fully automatic mode. 'Save scenes' as described further on.
   45 = teach in 'central control push-button ON';
   90 = teach in 'central control push-button OFF';
   120 = teach in FBH (slave) and FRW;
3. Set the middle rotary switch to LRN. The LED flashes at a low rate1.
4. Press the sensor to be taught-in. The LED goes out.

The position of the upper rotary switch is unimportant for FTK, water probes and PC during the teach-in process.

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

A pushbutton (rocker end) can only execute the same last taught-in function of different channels of a F4SR14-LED. Different pushbuttons can execute different functions of one or more channels of a F4SR14-LED.

After teaching-in, set the middle and lower rotary switches to AUTO and turn the upper rotary switch to the required time. For taught-in window/door contacts FTK, note that the middle rotary switch must be in the required setting AUTO 1 to 4.

Teach in scenes
Up to 4 scenes are being saved with a previously taught-in scene pushbutton.

1. All 4 channels of the impulse switch can be turned on or off individually with a previously taught-in universal-, direction-, or central pushbutton as it is desired for one scene.
2. The switch state is saved within 60 seconds when you press one of the four rocker ends of the double rocker scene pushbutton for longer than 3 seconds but shorter than 10 seconds.
3. If more scenes have to be saved return back to point 1.

Recall scenes:
Press one rocker of the scene pushbutton briefly to recall the scene you require.
An additionally set RV time is not taken into account.

When the middle rotary switch is set to TEST, the 4 contacts can be closed individually using the lower rotary switch:
TEST + AUTO = all contacts open,
TEST + 1 = contact 1 closed,
TEST + 2 = contact 2 closed,
TEST + 3 = contact 3 closed,
TEST + 4 = contact 4 closed,
TEST + 1..4 = all contacts closed.

Assign device address for the F4SR14-LED:
The rotary switch on the FAM14 is set to position 1, its lower LED flashes red. The lower rotary switch of the F4SR14-LED is set to 1..4. The middle rotary switch of the FSR14 is set to LRN, the LED flashes smoothly. After the address of the FAM14 was assigned, its lower LED flashes green for 5 seconds and the LED of the F4SR14-LED goes out.

Delete device configuration:
Set the middle rotary switch to ALL.
The LED flashes nervously. Then turn the upper rotary switch within 10 seconds 3 times to the leftmost stop (anticlockwise) and turn it back again.
The LED stops flashing and goes out after 5 seconds. The factory settings are restored.

Delete device configuration and device address:
Set the middle rotary switch to ALL.
The LED flashes nervously. Then turn the upper rotary switch within 10 seconds 6 times to the leftmost stop (anticlockwise) and turn it back again.
The LED stops flashing and goes out after 5 seconds. The factory settings are restored and the device address deleted.

Configure F4SR14-LED:
The following points can be configured with the PC tool PCT14:

- behavior upon return of supply voltage
- teaching-in of wireless pushbuttons and wireless Hoppe window handles with single or double click
- scenes for scene pushbuttons
- add or change sensors

CAUTION! Don't forget 'disconnect FAM' in the PC tool. While the connection from the PC tool to the FAM14 exists, no wireless commands are executed.

Teach-in confirmation telegram of another bus actuator to the F4SR14-LED:
As in the teach-in procedure, only set the middle rotary switch to LRA instead to LRN. Teach-in 'switch ON' as 'central control pushbutton ON'. Teach-in 'switch OFF' as 'central control pushbutton OFF'.

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.

Must be kept for later use!
We recommend the housing for operating instructions GBA14.

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