RS485 bus actuator

2-channel impulse switch
FSR14-2x

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%.

valid for devices from production week 50/20 (see bottom side of housing)

2-channel impulse switch with integrated relay function, 1+1 NO contacts potential free 16 A/250 V AC, incandescent lamps 2000 watts, with DX technology. Bidirectional. 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. Bus cross wiring and power supply with jumper.

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 (N1) and L to 1(L) and/or N to (N2) and L to 3(L). This results in an additional standby consumption of only 0.1 watt.

If supply voltage fails, the switching state is retained. When supply voltage is restored, the device is switched off in defined mode.

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

Scene control:

Several channels of one or several FSR14-2x 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 FSR14-2x devices.

Function rotary switches
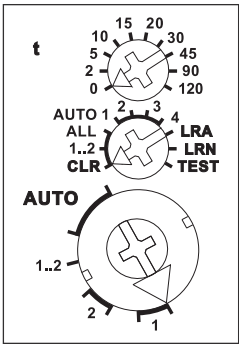
Use the rotary switches to teach-in the buttons and test the 2 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

When **FBH wireless motion/brightness sensors (masters)** (EEP A5-08-01) 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.

Semiautomatic motion detection with taught-in wireless motion sensor FB65B factory setting (EEP A5-07-01): Press the pushbutton to switch on. This starts a release delay time of 5 minutes during which the device switches on again if motion is detected. When no further motion is detected, the device switches off automatically after 5 minutes in addition to the set RV time. The actuator then reacts to motion for a further 5 minutes and may switch back on automatically. After this time expires, the device must be switched on again by pressing the pushbutton. You can switch the device off at any time by pressing the pushbutton. Motion is then no longer evaluated.

Fully automatic motion detection with taught-in wireless motion sensor FB65B:
If the actuator is not to switch on automatically when motion is detected, e. g. in rooms without daylight, replug the jumper to 'active' on the FB65B device. When no further motion is detected, the device switches off automatically after a release delay time of 5 minutes in addition to the set RV time. Press the pushbutton at any time to switch the device on or off. When motion is detected, the device switches on again automatically.

When wireless brightness sensors (EEP A5-06-01, -02, -03) 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 or 900 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 master or FHD60SB (EEP A5-06-01) is taught-in per channel. However, one FBH (masters) or FHD60SB (EEP A5-06-01) can be taught-in in several channels.

When **wireless window/door contacts FTK** (EEP D2-00-01, F6-10-00, A5-14-01, -03, -09, -0A) 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.

Vibration sensor (EEP A5-14-05):
If the upper rotary switch was set to position 5 during teach-in, the actuator works as a two-point switch, with 'vibration' it is switched on, with 'no vibration' it is switched off.

If the upper rotary switch was set to position 10 during teach-in, it is switched on with 'Vibration' and automatically switched off after the time that can be set between 2 and 120 seconds has elapsed. If the upper rotary switch is set to 0, it is not switched off automatically, but must be switched off manually.

When **FRW, FRWB, FHMB** (EEP A5-30-03) 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** FWS81 (EEP F6-05-01) 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 operation manual. It shows control commands by short flickering during operation.

Technical data

Rated switching capacity each contact	16A/250V AC
Incandescent lamp and halogen lamp load[1] 230V	2000 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*	500 VA
Compact fluorescent lamps with EVG* and energy saving lamps	15x7 W 10x20 W
Standby loss (active power)	0,1 W

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

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

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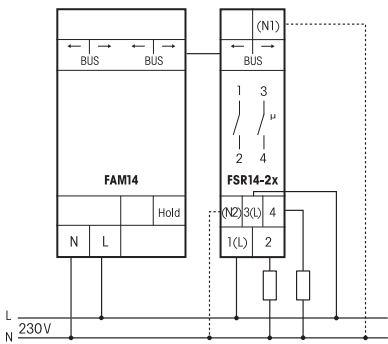
Teaching-in wireless sensors in wireless actuators
All sensors must be taught-in in the actuators so that they can detect and execute commands.

Teaching-in actuator FSR14-2x
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..2 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, 2 or 1..2 using the lower rotary switch.
2. Use the upper rotary switch to select the required teach-in function.

   0 = teach in 'direction button';

   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 button ES', 'Vibration sensor';

   10 = teach in 'universal button ER', 'vibration sensor with time lapse';

   15 = teach in 'central control button ON' with priority;

   20 = teach in 'central control button OFF' with priority;

   Central buttons have priority as long as they are pressed.

   30 = teach in 'scene button';

   Scene buttons (double rocker) are taught-in in fully automatic mode. 'Save scenes' as described further on.

   45 = teach in 'central control button ON';

   90 = teach in 'central control 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.

For **FTK, FB65B, vibration sensors and water sensors,** no teach-in position needs to be observed for the upper rotary switch.

For **rotary switches** and **GFVS** no teach-in position needs to be observed. On teach-in, the actuator automatically sends a confirmation telegram when it receives a device address and the upper rotary switch on the FAM14 is turned to Pos. 2.

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 FSR14-2x. Different pushbuttons can execute different functions of one or more channels of a FSR14-2x.

After teaching-in, set the middle and lower rotary switches to AUTO and turn the upper function 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 2 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 doublerocker scene button 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 2 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 + 1..2 = all contacts closed.

Assign device address for the FSR14:

The rotary switch on the FAM14 is set to position 1, its lower LED flashes red. The lower rotary switch of the FSR14 is set to 1..2. The middle rotary switch of the FSR14 is set to LRN, the LED flashes smothly. After the address of the FAM14 was assigned, its lower LED flashes green for 5 seconds and the LED of the FSR14 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 FSR14:

The following points can be configured with the PC tool PCT14:

■ behavior upon return of supply voltage
■ teaching-in of wireless pushbuttons and wireless window handles with single or double click
■ scenes for scene pushbuttons.
■ Switch-on and switch-off thresholds for brightness sensors
■ 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 FSR14:

As in the teach-in procedure, only set the middle rotary switch to LRA instead to LRN. Teach-in 'switch ON' as 'central control button ON'. Teach-in 'switch OFF' as 'central control button 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.

Manuals and documents in further languages

http://eltako.com/redirect/FSR14-2x

1. 📷 App   2. [QR]   3. www.