GB

30 400 130 - 1

Eltako ELECTRONICS

RS485 Bus Switching Actuator CE
FSA12-12 V DC

valid for devices from production week 17/09
(see bottom side of housing)

4-channel switching actuator ES/ER/EW, 1 NO contact per channel 4 A/250 V AC, potential free from the power supply, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 modul = 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.

Up to 35 wireless pushbuttons each with 4 functions can be assigned to each channel of an FSA12 therefrom in the setting ES one or more central pushbuttons.

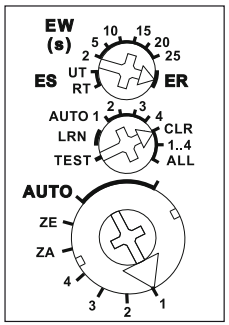
The channels are configured together. Each NO contact has a switching capacity up to 4 A/250 V AC. Incandescent lamps 1000 watts.

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 watts.

If the channels are used to control switchgear that has no zero passage switching, (N) should not be connected, otherwise the additional off-delay would have the opposite effect.

A 12 V DC voltage is supplied from a switching power supply unit SNT12-12 V DC which has a width of only 1 module. When all 4 relays are switched on, a power of 0.7 watts is required.

Function rotary switches



The upper rotary switch defines the function of the 4 channels together as impulse switch with universal switch (**ES**-UT), as impulse switch with direction switch (**ES**-RT), as fleeting NO contact (**EW**) or as relay (**ER**). In ES function, central control commands ON/OFF can be taught-in. In EW function, a wiping time of 2 to 25 seconds can be set.

The middle and the lower rotary switches are for teaching-in the pushbuttons and if necessary the four channels will be tested. In normal mode, the two rotary switches are finally set to AUTO.

When **wireless motion/brightness sensors FBH** are taught-in, the top rotary switch is used to define the switching threshold of the last FBH that is taught-in. If motion is detected, this switching threshold defines when the lighting is switched on/off as a function of brightness (from approx. 30 lux in position RT to approx. 300 lux in position 25). If the FBH is taught-in in position ER, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH.

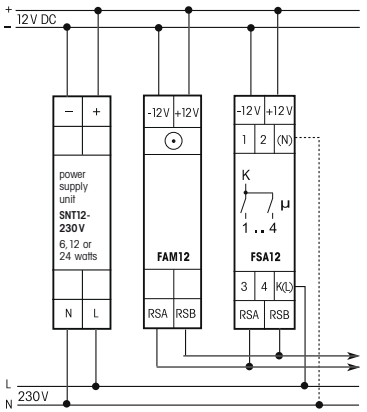
In operation, the upper rotary switch is set to ES.

When **wireless window/door contacts FTK** are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 32 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.

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/250 V AC
Incandescent lamp and halogen lamp load [1] 230 V	1000 W
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500 VA
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250 VA
Compact fluorescent lamps with EVG* and energy saving lamps	8 x 7 W 5 x 20 W
Standby loss (active power)	0.1 W

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

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

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 FSA12-12 V 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 ALL (or to CLR 1..4 if you only want to clear one channel and also set the lower rotary switch to the required channel). 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. Use the lower rotary switch, select the required channel 1 to 4 or the position ZE/ZA for the central control unit.
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. As central control unit push-button either a rocker or the right half of a double rocker can be taught-in. With other pushbuttons, teach-in the upper and lower buttons as required. When teaching-in direction switches the upper part (ON) and the bottom part (OFF) must be taught-in separately.

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

After teaching-in, set the middle and lower rotary switches to AUTO and turn the function rotary switch to the required position ES, EW 2 to EW 25 or ER. Taught-in central control unit switches are only active in position ES.
When window/door contacts FTK are taught-in, consider the setting of the positions AUTO 1 to AUTO 4 of the middle rotary switch and set the upper rotary switch to ER.

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, etc.

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!

08/2011 Subject to change without notice.