

Wireless universal actuator

FUAT12-230V



**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 &lt;75%.

**valid for devices from production week 49/17** (see bottom side of housing)

Wireless universal actuator with exchangeable antenna. Impulse switch with integrated relay function with 1 change over contact potential free 10A/250V AC, incandescent lamps up to 2000W, with DX technology. Bidirectional. Encrypted wireless. Only 0.9 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36mm wide, 58mm deep.

Supply voltage 230V.

**The wireless universal actuator combines the functions of a wireless antenna module and an actuator as a 1-channel impulse switching relay with DX technology.**

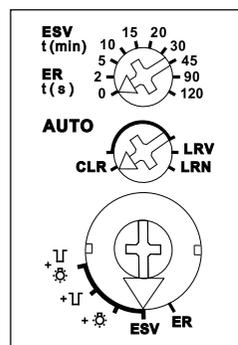
If supply voltage fails, the switching state is retained. When supply voltage is restored, the device is switched off in defined mode.\*

The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated.

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 15 (L). This results in an additional standby consumption of only 0.1 watt. From production week 08/16 it is also possible to control the device via the wired pushbutton terminal Ⓞ. In this case the N wire must be connected on the terminal (N). Glow lamp current is not permitted. You can switch on **bidirectional wireless** and/or a **repeater** function. Every status change and incoming central control telegrams are then confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the GFVS software and in universal displays.

### Function rotary switches



The function of the actuator is set **with the lower rotary switch**.

**ER** = switching relay

**ESV** = impulse switch. Possibly with off delay

- + = ESV with pushbutton permanent light
- + = ESV with switch-off early warning
- + + = ESV with pushbutton permanent light and switch-off early warning

**If the permanent light function** is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

**If the switch-off early warning** is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

The function **ESV on the upper rotary switch** sets the off delay from 2 to 120 minutes. In setting 0 normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning. In setting ER = switching relay of the lower rotary switch, this rotary switch fulfils a safety and power saving function in the settings except 0: If the opening command cannot be detected, for example, because of a jammed or too hastily operated pushbutton, contact 18 opens automatically after expiry of the set time between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

**Scene control:** With one of the four control signals of a pushbutton taught-in as a scene pushbutton with double rocker, several FUA12 can jointly be switched on or off to a scene.

**Universal pushbuttons** can be taught-in as **NC contacts**.

**FTK wireless window/door contact and Hoppe window handles:** ER function position: Several FTK devices and (or) Hoppe window handles are interlinked; NO contact: When a window is opened, contact 18 closes. All windows must be closed before contact 18 opens (e.g. controller for cooker extraction hoods). NC contact: All windows must be closed before contact 18 closes. When a window is opened, contact 18 opens (e.g. for climate control systems).

**Twilight pushbutton** with taught-in FAH wireless outdoor brightness sensor in function position ESV. In time setting 120, contact 18 opens with a time delay of 4 minutes when brightness reaches high enough levels. In time setting 0, the contact opens immediately. Pushbutton activation also remains available.

**Motion detection** with taught-in **FBH (slave)** wireless motion-brightness sensor or motion sensor FB65B and in ER function position. The device switches on when motion is detected. When no more motion is detected, the contact opens after the present release delay time  $t = 2$  up to 255 (FB65B: 120 to 380) seconds (position 4). When an **FBH (master)** wireless detector and

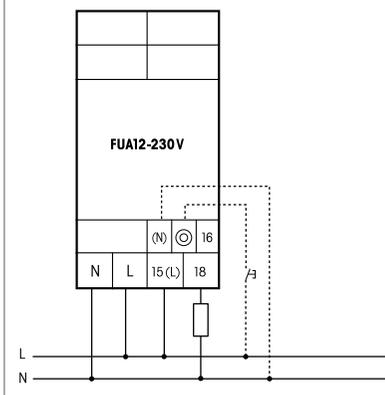
brightness detector is taught-in, use the lower rotary switch to define the switching threshold at which the lighting is switched on or off depending on the brightness (in addition to motion).

An FAH wireless outdoor brightness sensor or an FBH (master) wireless motion detector and brightness sensor can be used in ER function position together with FBH (slave) or FB65B so that motion is only evaluated in darkness. If FAH or FBH (master) detects brightness, the contact opens immediately.

**When teaching-in**, the switching threshold is also taught-in: between break of twilight and complete darkness.

**The LED** performs during the teach-in process according to the operating instructions. It shows wireless control commands by short flickering during operation.

### Typical connection



### Technical data

Rated switching capacity	10A/250V AC
Incandescent lamp and halogen lamp load <sup>1)</sup>	2000W 230V
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	1000VA
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	500VA
Compact fluorescent lamps with EVG* and energy saving lamps ESL	15x7W 10x20W
230V-pushbutton terminal: Control current	0,4 mA
Parallel capacitance (approx. length) control lead at 230V	0,3µF (1000 m)
Standby loss (active power)	0.9W

<sup>1)</sup> Applies to lamps of max. 150W.

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

### Teaching-in wireless sensors in wireless actuators

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

### Teaching-in actuator FUA12-230V

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

Turn the middle rotary switch to CLR. 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 are cleared; the repeater and the confirmation telegrams are switched off.

### Clear single taught-in sensors:

Turn the middle rotary switch to CLR. The LED flashes at a high rate. Operate the sensor. The LED goes out.

If all the functions of an encrypted sensor are cleared, teach-in must be repeated as described under *Teach-in encrypted sensors*.

### Teaching-in sensors:

1. Setting of the upper rotary switch to the desired teaching-in function:

**0** = Teach in 'Central OFF', FTK and Hoppe window as NC contacts.

**2** = Teach in scene pushbuttons, a complete pushbutton with double rocker is automatically assigned.

**5** = Teach in direction pushbutton; Direction pushbuttons are completely taught-in automatically when pressed. Where the button is pressed is then defined for switch-on and the other side is the switch-off side.

**10** = Teach in universal pushbutton.

**15** = Teach in universal pushbutton as NC contact.

**120** = Teach in 'Central ON', FTK and Hoppe window handles as NO contact and FBH (slave).

Either an FAH or an FBH (master) can be taught-in. During teach-in, the position of the lower rotary switch determines the switching threshold: from 0 = full darkness to 90 = start of twilight.

The FB65B can be taught-in in any position.

**Rotary switches** and **GFVS** can be taught-in in any position, confirmation telegrams are automatically activated and sent.

2. Set the middle rotary switch to LRN. The LED flashes at a low rate.

3. Operate the sensor which should 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.

\* If the switch position is to be retained after a power failure, the lower rotary switch must be set to the right stop (clockwise rotation) when teaching-in the sensors.

After teach-in, set the rotary switches to the required function.

**To prevent unintentional teach-in, teach in pushbuttons by 'double-clicking' (pressing rapidly twice in succession).**

### Activate teaching-in with 'double click':

1. Set the middle rotary switch to CLR. The LED flashes at a high rate. Within 10 seconds, turn the lower rotary switch three times to right stop (turn clockwise) and back again. The LED stops flashing and goes out after 2 seconds.

If the middle rotary switch is set to LRN for teaching-in, the LED flashes 'double'.

2. 'Double-click' the pushbutton you want to teach in. The LED goes out.

### Deactivate teaching-in with 'double click':

Set the middle rotary switch to CLR. The LED flashes at a high rate. Within 10 seconds, turn the lower rotary switch three times to right stop (turn clockwise) and back again. The LED goes out immediately.

After a power supply failure, the device reverts automatically to teach-in with a 'single click'.

### Teach in encrypted sensors:

1. Turn the middle rotary switch to LRV. The LED flashes very rapidly.

2. Within 120 seconds, enable sensor encryption. The LED goes out. Caution: Do not switch off the power supply.

3. Then teach in the encrypted sensor as described in *Teaching-in sensors*.

To teach in other encrypted sensors, turn the middle rotary switch briefly away from position LRV continue the procedure from position 1.

With encrypted sensors, use the 'rolling code', i.e. the code changes in each telegram, both in the transmitter and in the receiver.

If a sensor sends more than 50 telegrams when the actuator is not enabled, the sensor is no longer recognised by the enabled actuator and you must repeat teach-in as 'encrypted sensor'. It is not necessary to repeat the function teach-in.

You can teach in unencrypted and encrypted sensors.

### Teaching-in scenes:

Four scenes can be saved by a scene pushbutton previously taught-in.

1. Switch on/off impulse relays.
2. The switching state is saved by pressing one of the four rocker ends of a doublerocker scene pushbutton for 3-5 seconds.

### Switch on repeater:

The repeater is switched off in the factory setting. Turn the middle rotary switch to CLR. The LED flashes at a high rate. Now within 10 seconds turn the lower rotary switch 3 times to the left (anticlockwise) and then back away. The LED stops flashing and goes out after 2 seconds. The repeater is switched on.

### Switch off repeater:

Turn the middle rotary switch to CLR. The LED flashes at a high rate. Now within 10 seconds turn the lower rotary switch 3 times to the left (anticlockwise) and then back away. The LED goes out immediately. The repeater is switched off.

### Switch-on confirmation telegrams:

For deliveries ex-works the confirmation telegrams are switched-off. Set the middle rotary switch to CLR. The LED flashes nervously. Now within 10 seconds turn the upper rotary switch 3 times to the left (anticlockwise) and then back away. The LED stops flashing and goes out after 2 seconds. The confirmation telegrams are switched-on.

### Switch-off confirmation telegrams:

Set the middle rotary switch to CLR. The LED flashes nervously. Now within 10 seconds turn the upper rotary switch 3 times to the left (anticlockwise) and then back away. The LED goes out immediately. The confirmation telegrams are switched-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.

### EnOcean wireless

Frequency	868.3MHz
Transmit power	max. 10mW

**Hereby, Eltako GmbH declares that the radio equipment type FUA12-230V is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [eltako.com](http://eltako.com)**

### Must be kept for later use!

We recommend the housing for operating instructions GBA12.

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