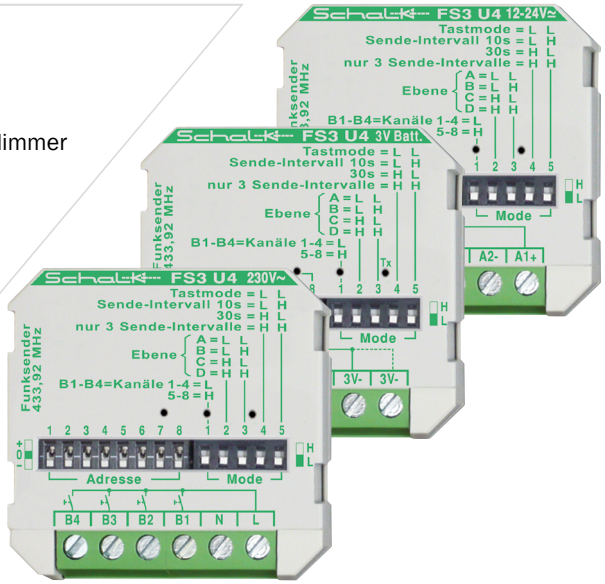
# Radio transmitter FS3 U4

Radio transmitter (for installation in flush-mounted switch boxes) with 4 inputs for controlling Fx3 radio receivers. This allows buttons from the existing switch range to be used.

## Special features

- 4 inputs for external (wired) buttons
- Fully compatible with FS3/FE3/FD3 series transmitter/receiver/dimmer
- Address can be set with 6561 possibilities
- 3 operating modes:
  - pushbutton mode
  - Interval transmission with 10s or 30s
  - only 3 transmission intervals with 10s
- Free field range 50m (no external antenna)
- Small housing (receiver fits in flush-mounted switch box)
- 3 variants (230V AC, 12-24V UC, 3V DC battery)




## General information

The radio transmitter FS3 U4 controls Schalk-radio receiver relays and dimmers of the Fx3 series. There are 4 inputs for wired buttons.
The send address is set with a DIP switch. With the "Mode" DIP switch, the transmitter can be adjusted so that all keys/ levels of our hand-held transmitters can be simulated.
In "push-button mode", the FS3 U4 behaves like a hand-held transmitter. In the "interval transmission" operating mode, switching states (motion detectors, heating thermostats, etc.) that are present for a long time can also be transmitted without interfering other radio links. The "only 3 transmission intervals" mode enables, for example, the central control of roller shutters via a simple clock relay. These can then be operated on site again 3 intervals (30 s) after the time switch signal, although the contact is still present.

## Applications

Especially when retrofitting existing installations, wireless signal transmission is often the only economical and technically feasible solution.
With the corresponding receiver switches and dimmers, almost any electrical loads can be controlled.

## Operation

The sent protocols consist of address, level and channel (=button).

**Select the address (8-bit tri-state DIP switch):**
(see DIP switch in the battery compartment of the handheld transmitter)
The address establishes the basic assignment to the receiver. Several transmitters with the same address can address the same receivers. Each individual DIP switch has 3 positions. The middle position is also valid, resulting in 6561 adjustment options. By default, all address DIP switches are set to "-". Our radio receiver relays are also delivered with this address preconfigured.

**Select channel (mode switch 1):**
*(cf. buttons 1-8 of the remote control)*
L= Inputs B1-B4 correspond to keys 1-4
H= Inputs B1-B4 correspond to keys 5-8

**Select level (mode switch 2,3):**
*(see level keys A-D of the remote control FS3 HC)*
This makes the FS3 U4 compatible with the hand-held transmitter FS3 HC, which can perform 32 functions directly (using 4 level keys).

Older devices are compatible with level A.
L, L = Level A L, H = Level B
H, L = Level C H, H = Level D

**Select operating mode (mode switch 4,5):**
*(pushbutton mode or interval transmission)*
L, L = pushbutton mode
L, H = interval transmissions every 10s
H, L = interval transmissions every 30s
H, H = only 3 transmission intervals with 10s

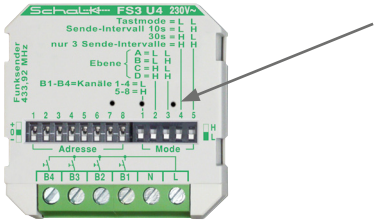
## Operating modes:

**Pushbutton mode:**
This operating mode is identical to the hand-held transmitter. As soon as an input is present, the status of all 4 inputs (B1-B4) is continuously transmitted simultaneously in a protocol. The transmission time is limited to 45s.

**Interval transmission with 10s or 30s:**
This operating mode is used to transmit long-lasting switching states (e.g. heating thermostats). The receiver relay is operated in after-run mode and drops out with a corresponding delay when no more signals arrive from the transmitter. In this way, several transmitters can be operated simultaneously, since the transmission time is limited to a short refresh signal. Protocols are sent for each "on" signal edge at inputs B1-B4 and additionally at intervals of 10s or 30s. A separate protocol is transmitted for each active input.

**Only 3 transmission intervals:**
Same as interval transmission, but only 3 transmission intervals are generated with 10s from the last single edge.
If, for example, awnings are to be controlled via a shading sensor, they can be controlled on site again 30s after the switching edge on the sensor.

## LED indication




LED on: at least one input is active
LED flickers: Sending is active

**Info** *Since the carrier frequency is always the same, the transmitter signals mix when several transmitters transmit simultaneously and are no longer recognized by the receiver. For this reason, longstanding switching states must be transmitted by means of interval transmissions. At longer intervals, the probability of short-term overlaps is lower.*

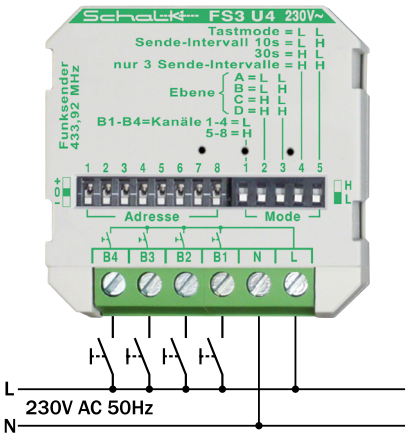
**Info** *With the 3V battery version, it does not make sense to connect switches (or the "interval transmission" mode), as the power consumption during transmission is too high for sufficient battery life.*

## Range notes:

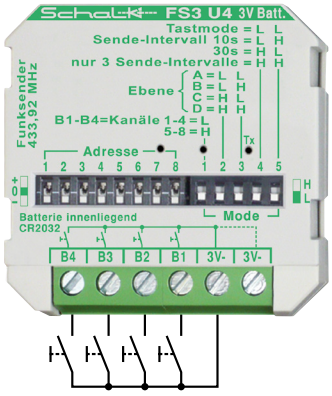
The free field range with the above transmitters is at least 50 m. However, the range may be reduced considerably by walls, concrete ceilings, metal surfaces, damp soil, etc. For optimum wireless range, we recommend an installation height of at least 1 m above ground level. The antenna is located behind the front of the housing. If transmitter and receiver are aligned, the range can usually be significantly improved. A favourable orientation may have to be determined by trial and error.

## Connection examples

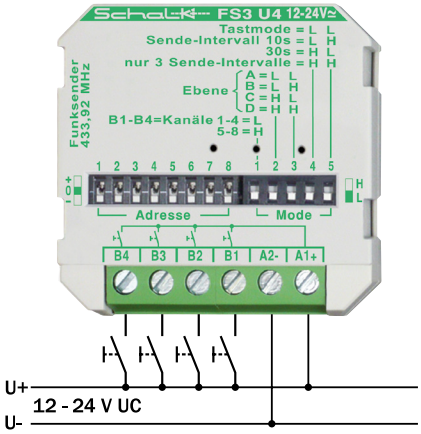
### FS3 U4 (230V AC)




### FS3 U4 (3V DC)

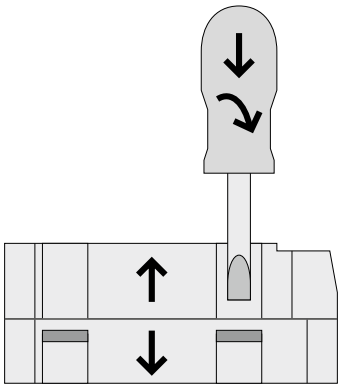



### FS3 U4 (12-24V UC)

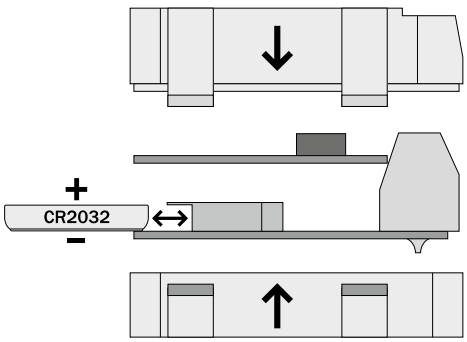



## Battery replacement FS3 U4 (3V DC)

### 1



### 2



## Technical data

| | | | |
|---|---|---|---|
| **Radio signal** | 433.92 MHz OOK PWM <10 mW | | |
| **Selectable addresses:** | 6561 (tri-state DIP switch) | | |
| **Selectable levels** | A, B, C, D (compatible with FS3 HC) | | |
| **Channel assignment** | 1-4 or 5-8 | | |
| **Operating voltage and power consumption** | FS3 U49<br>FS3 U4V<br>FS3 U4B | 230V AC 50/60 Hz<br>12-24V UC<br>3V DC (CR2032) | 200mW<br>1..6mW (standby) / 60..120mW (transmit)<br>15µW (standby), >10.000 switching cycles of 1 s each |

**230 V AC variant:**

| | |
|---|---|
| **Line capacity (L-Bx)** | approx. 10 nF |
| **Glow lamps (L-Bx)** | max. 5 pc. (1 mA each) |
| **Ambient temp.** | -10°C to +45°C |
| **Connection terminals** | Socket terminals with captive screws M3 |
| **Clamping range** | 0.5 mm² - 2.5 mm² |
| **Strip length** | 6.5 mm - 7.0 mm |
| **Screwing torque** | 0.50 Nm |
| **Mounting orientation** | If necessary, alignment to the receiver |
| **External dimensions** | 43 x 43 x 18,5 mm³ |
| **Weight** | 30 g |
| **RAL colour** | grey 7035 / green 6029 |

**Compatible devices:** Radio receiver/transmitter of the FE3 / FD3 / FS3 series, radio repeater FV2 R

## Order data

| Item no. | EAN | Type | Designation |
|---|---|---|---|
| FS3U49 | 4 046929 101011 | FS3 U4 (230V AC) | Radio transmitter, 4-channel 230V AC (FMD) |
| FS3U4B | 4 046929 101387 | FS3 U4 (3V DC) | Radio transmitter 4 channel, 3V DC, incl. battery (FMD) |
| FS3U4V | 4 046929 101028 | FS3 U4 (12-24V UC) | Radio transmitter, 4-channel 12-24V UC (FMD) |

## Accessories

| Item no. | EAN | Type | Designation |
|---|---|---|---|
| HC3500 | 4 046929 901062 | HC 35 | Top-hat rail clip |
| BFS03B | 4 046929 901062 | BFS 03 | Battery for radio transmitter 3V (CR2032) |

2017-10-01