

GENERAL:

The radio remote control receiver switches FE3 D and FE3 DV, in combination with the radio remote control transmitters (hand-held transmitter FS3 H8 and flush-mounted transmitter FS3 U4) are designed for wireless switching of electric loads (even without visual contact).

Consequently, these devices can be used as two-circuit switches, changeover switches or for motor and louver blind control (relays interlocked).

The teach-in address codes are handled differently in Local, Group and Central control modes.

In the case of Local control, the same transmitter button is used for switching on and off. To ensure that commands are unambiguous and unique in Group and Central control, different address codes (buttons) can be taught-in for switching on and off.

APPLICATION:

Wireless control of lamps (pushbutton dimmers), motors (roller shutters, window louver-blinds, gates, fans etc.).
Transmission of non-time-critical switch contacts (motion sensors, heater thermostats etc.).

OPERATION:

The FE3 D has 6 operating modes. Each of the 2 relay contacts can be operated in momentary-contact mode or in maintained-contact switching mode with or without time monitoring.

When the FE3 D is used as a 2-circuit switch, the two relays can be switched independently of each other.

The changeover switch mode "W" simulates a changeover contact by means of the two normally open relays. In the motor operating modes, the relays are interlocked. In addition, the FE3D implements functions for easy-to-use control of roller shutters, louver blinds, awnings, skylights etc. (individually or in groups).

For example, in the single-pushbutton motor control function "M1" with Local control, one transmitter button generates the switching sequence "Up, Stop, Down, Stop", whereas with Group and Central control separate commands are provided for Up, Down and Stop.

In the case of louver blind control, the louvers can be precisely adjusted or, on switching off, set to a specified angle.

For further information, please see overleaf and the data sheets "FE3 Programming Instructions" and "Practical tips on the Schalk radio remote control system".

Radio remote-control receiver switches FE3 D, FE3 DV (2 channels)

SPECIAL FEATURES:

- 6 operating modes for:
2-circuit switch, 2-way switch, motor control and louver blind control
- 3 runtime modes:
Momentary contact mode, maintained contact switching mode with and without time monitoring
- Local, Group or Central control with separate teach-in address codes
- Free-field range 50m
- Antenna built into housing
- Repeater available for increasing the range
- Compact housing
- 2 relay contacts (NO contacts 10A 250V AC)
- FE3 D: potential-free relay contacts
- FE3 DV: 2 inputs for hard-wired Local pushbutton

TECHNICAL DATA:

| | |
|---------------------|-------------------------------|
| Reception frequency | 433.92MHz (gen. BZT approval) |
| Modulation type | OOK PWM |
| Operating voltage | 230V AC 50/60Hz |
| Power consumption | 0.6W |

| | |
|-----------------------|--|
| Inputs B1, B2 | Line capacitance max. 100nF Glow lamps max. 8mA |
| Relay contacts | 2 NO contacts 10A 250V AC Relay contacts potential-free FE3 D: 8mm creepage/clearance FE3 DV: contacts at L potential |
| Switching capacity | see relay contact data sheet |
| Interference immunity | compliant IEC 801-4 level 4 |
| Equipment protection | compliant IEC 801-5 level 3 |
| Creepage/clearance | compliant VDE 0110 Gr. C/250V |
| Ambient temperature | -10°C to +45°C |
| Insulated housing | Flameproof to VDE 0304 Part 3, level FV 0 |
| Connections | Socket terminals with captive screws M3.5 (2x1.5mm/1x2.5mm) if necessary directed at transmitter |
| Installation position | 43x43x33mm3 |
| External dimensions | |
| Weight | 55g |
| Colour (RAL) | Grey 7035 / green 6029 |

ORDERING INFORMATION:

| Part No. | Type | Description |
|----------|--------|---|
| fe3d09 | FE3 D | Radio remote control receiver switch 230V AC (2 contacts, potential-free) |
| fe3dv9 | FE3 DV | Radio remote control receiver switch 230V AC (2 contacts, 2 wired inputs) |

Accessories:

| | | |
|--------|--------|-------------------------------------|
| fs3h8b | FS3 H8 | Hand-held transmitter, 8 buttons |
| fs3u49 | FS3 U4 | Flush-mounted transmitter, 4 inputs |
| fr3u29 | FR3 U2 | Repeater (for increasing the range) |
| hc3500 | HC 35 | Top-hat rail clip |

FE3 D(V) Operation and Typical Applications

Basic states:

Switching mode

The receiver responds to a valid address code and controls the relay output as a function of the operating mode.

Teach-in mode

Reallocation of the "address codes" (address switch setting + pushbutton number) to the different functions

"Mode" Rotary switch:

- S** 2-circuit switch (timer adjustable in minutes)
- SK** 2-circuit switch (timer adjustable in seconds and retriggerable)
- W** Changeover switch (timer adjustable in minutes)
- M1** Motor control with 1 pushbutton (a single transmitter button generates the switching sequence "Up, Stop, down, Stop", the timer is adjustable in seconds)
- M2** Motor control with 2 pushbuttons (one transmitter button per direction, the timer is adjustable in minutes)
- J2** Louver blind control with 2 pushbuttons
 - a initial momentary-contact (<1sec) enables the precise louver adjustment
 - a counter-rotation pulse (0-1.2 sec. adjustable) after switching OFF can set the louvers to a defined angle

Mode changes are only recognised in switching mode.

To confirm the selected mode, the "Local"-LED flashes 1 to 6 times after changing the mode.

"Prog." Button:

brief press:

- Activate teach-in mode
- Select the next function

held down > 1 sec (in teach-in mode):

- Exit teach-in mode

held down > 10 sec (in switching mode):

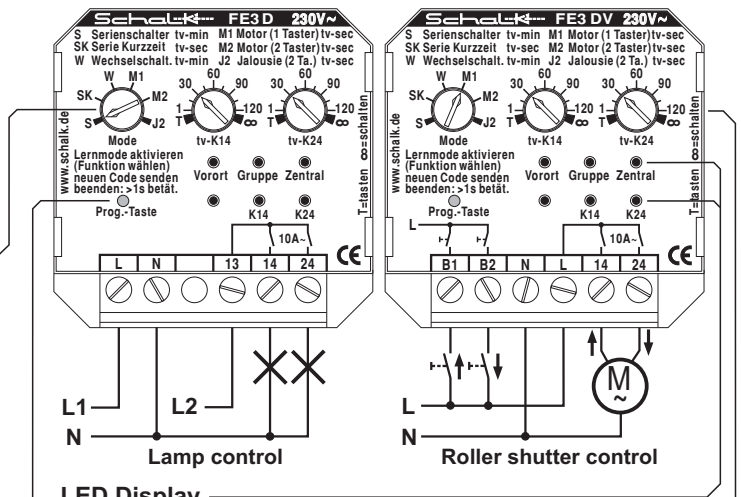
Load the default address code (factory setting)
(Local and Central LEDs flash 5 times when done)

Programming Instruction:

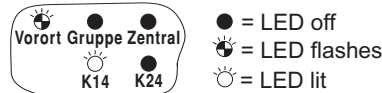
1. Select the desired function on the FE 3D(V) (by pressing the "Prog." button one or several times)
=> the selected function is displayed by 2 LEDs
2. Press a button on the corresponding transmitter
=> one of the LEDs "Local, Group or Central" on the FE3 D(V) flashes after valid reception
3. Exit the teach-in mode by holding down the "Prog." button for more than one second or wait 20 seconds.
=> the new settings are stored

Local inputs B1 and B2 (wired):

These inputs have identical functions as "Local" radio control. Alternatively, in the case of motor control (M2, J2), if both inputs are operated simultaneously (jumpered) the function "Central up" is generated (K14 is runtime-limited ON as long as the inputs are activated). In M1 mode, this function is assigned to input B2 (B1 is maintained). Example application: retraction of louver blinds by a wind monitor ("Storm" switch contact).



LED Display



Example: the K14 local toggle function is selected and the local LED flashes after a new code has been received.

The LED Display in switching mode:

LEDs K14 and K24 are indicating the switch status (flashes during timed operation / lit continuously w/o time function) "Vorort" (=Local), "Gruppe" (=Group) and "Zentral" (=Central) indicate the transmission source (if a unknown code is received, the Local and Central LEDs are lit simultaneously)

The LED Display in teach-in mode:

Display the selected function to be changed (see address code / function table)

Runtime Potentiometers "tv-K14" and "tv-k24"

The runtimes of K14 and K24 can be set separately.

Except in louver blind mode (J2):

=> tv-K14 = motor runtime for both relays (directions)

=> tv-K24 = duration of counter-direction pulse (0 - 1.2sec)

Momentary Contact Mode

Relais ON while transmission in progress

Switching Mode with Timer Function

Time scale in [min] or [sec] depending on mode.

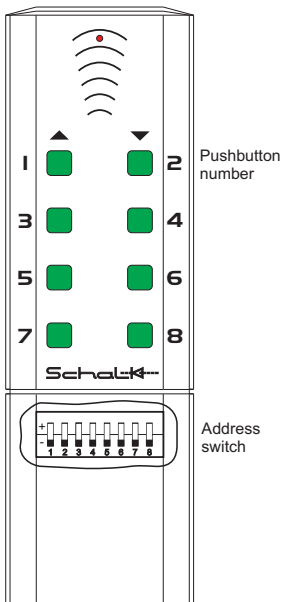
Switching Mode

Switched off only manually

Address Code and Functions (factory setting)

Local function (toggle): The same address code (transmitter pushbutton) is used for switching the receiver on or off.

Group or central functions: Separate address codes (transmitter pushbuttons) are used for switching the receiver on or off.



Hand-held transmitter FS3 H8

| Transmission Source | Addresscode | | LED-display in teach-in mode | Function (depending on mode) | | | |
|---------------------------------|---|---|------------------------------|------------------------------|--------------------|-----------------------------------|--------------|
| | Transmitter address switch & pushbutton | | | Mode S & SK | Mode W | Mode M1 | Mode M2 & J2 |
| Local (factory default setting) | | 1 | | K14 toggle | K14/K24 changeover | switch sequence UP/STOP/DOWN/STOP | UP/STOP |
| | | 2 | | K24 toggle | - | - | DOWN/STOP |
| Group (no default settings) | can be taught in | | | K14 ON | K14 ON K24 OFF | UP | UP |
| | | | | K14 OFF | K14 OFF K24 ON | STOP | STOP |
| | | | | K24 ON | - | DOWN | DOWN |
| | | | | K24 OFF | - | - | - |
| Central (no default settings) | can be taught in | | | K14 ON | K14 ON K24 OFF | UP | UP |
| | | | | K14 OFF | K14 OFF K24 ON | STOP | STOP |
| | | | | K24 ON | - | DOWN | DOWN |
| | | | | K24 OFF | - | - | - |