Radio remote-control receiver switch
FE3 Q (4 channels)

GENERAL:

The 4-channel remote control receiver switch, in combination with the radio remote control transmitters (FS3 H8 hand-held transmitter and FS3 U4 flush-mounted transmitter) is designed for wireless switching of electrically operated equipment (even without visual contact).

It can be used as a 2-circuit switch, for transmitting contact states or for motor and louver-blind controls. This transmitter distinguishes between the switching functions "toggle" (alternate on/off) and defined "On" or defined "Off". The address codes for the various functions can be taught in.

APPLICATION:

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

OPERATION:

Each of the 4 relays can be operated in momentary-contact or maintained-contact mode with or without time monitoring. Potentiometers "tv-K1,K2" and "tv-K3,K4" can be used to set the off-delay separately for one pair of relays.

In addition, the FE3 Q has 6 basic operating modes.

As a 4-circuit switch, the 4 relays can be switched independently of one another. In the 4-circuit switching modes SN (tv [min]) and SNs (tv [s]), the toggle function has a retriggering effect (off-delay). Consequently, these modes, in combination with the intermittent transmitter FS3 U4, are suitable for forwarding non-time-critical contact states (see also the supplementary data sheets on the radio remote control system).

In the motor operating modes the relays are interlocked. In addition, the FE3 Q 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 "Toggle" (Local control), one transmitter button generates the switching sequence "Up, Stop, Down, Stop", whereas with Group 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 (activated counter-direction pulse).

SPECIAL FEATURES:

- **4 relay contacts - normally open, 6A 250V~** (e.g. 4 lamps or 2 motors can be operated)
- **6 operating modes for:** two-circuit switching, contact status transmission, motor control and louver blind control
- **Runtime modes:** Momentary contact mode, maintained contact switching mode with and without time monitoring
- **Teach-in address codes for defined "On", "Off" and "Toggle" (= alternating on/off)**
- **Free-field range 50m**
- **Antenna built into housing**
- **Repeater available for increasing the range**
- **Compact housing**
- **Low power consumption**

TECHNICAL DATA:

Reception frequency	433.92MHz (gen. BZT approval)
Modulation type	OOK PWM
Address codes	teach-in via transmitter
Operating voltage	230V AC 50/60Hz
Power consumption	0.6W
Relay contacts	4 NO contacts 6A 250V ~
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
Installation position	if necessary directed at transmitter
External dimensions	43x43x33mm
Weight	55g
Colour (RAL)	grey 7035 / green 6029

ORDERING INFORMATION:

Part No.	Type	Description
fe3q09	FE3 Q	Radio remote control receiver switch 230V AC with 4 NO contacts

Accessories:

Part No.	Type	Description
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 Q 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 4-circuit switch (timer adjustable in minutes)
SN 4-circuit switch (timer adjustable in minutes, retriggerable)
SNs 4-circuit switch (timer adjustable in seconds, retriggerable)
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

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 > 1 sec (in switching mode):
- Show operation mode by LED "Toggle" ⇒ blinks 1...6 times after releasing pushbutton

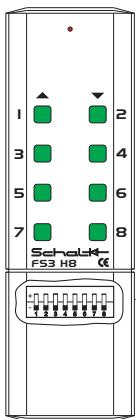**held down >10 sec (in switching mode):**
Load the default address code (factory setting)
(Toggle and OFF LEDs flash 5 times when done)

Programming Instruction:
1. Select the desired function on the FE3 Q (by pressing the "Prog." button one or several times)
   ⇒ the selected function is displayed by the LEDs
2. Press a button on the corresponding transmitter
   ⇒ one of the LEDs "Toggle", " Ein" or " Aus" on the FE3 Q flashes after valid reception
3. To abort teach-in mode early hold down the "Prog." button for more than one second (or automatic abort after 20 seconds)
   ⇒ the new settings are stored
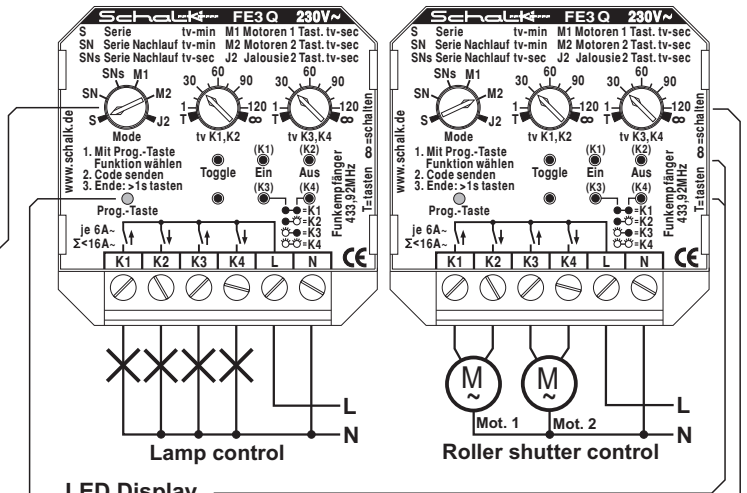
Simple programming example:

Assign sender buttons 5 to 8 for controlling the receiver
- Press button "Prog" on FE3 Q shortly => LED "Toggle" glows
  Press button **5** on hand-held transmitter => LED "Toggle" blinks
- Press button "Prog" again shortly => LED "Toggle" glows
  Press button **6** on hand-held transmitter => LED "Toggle" blinks
- Press button "Prog" again shortly => LED "Toggle" glows
  Press button **7** on hand-held transmitter => LED "Toggle" blinks
- Press button "Prog" again shortly => LED "Toggle" glows
  Press button **8** on hand-held transmitter => LED "Toggle" blinks
- Now press button "Prog" longer than 1 second => LEDs go out
(the selected relay is indicated by the LEDs on the bottom right - see small table below them)

Button number:
In the factory setting, buttons 1 to 4 generate the functions "Toggle K1 to K4".
The address codes for "ON K1…K4" and "OFF K1…K4" (group control) must be taught-in at the receiver if necessary.

Address code switch:
(**All factory-set to "-"**)

Hand-held transmitter FS3 H8

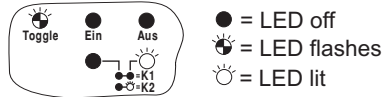Lamp control

Roller shutter control

LED Display

The LED Display in switching mode:
LEDs K1, K2, K3, and K4 are indicating the switch status (flashes during timed operation / lit continuously w/o time function)
"Toggle", "Ein" (=ON) and "Aus" (=OFF) indicate the function (if a unknown code is received, the "Toggle" and "Aus" LEDs are lit simultaneously)

The LED Display in teach-in mode:
Display the selected function to be changed (see address code / function table)
Example: the K2 "Toggle" function is selected and the "Toggle" LED flashes after a new code has been received.

● = LED off
✷ = LED flashes
☼ = LED lit

Runtime Potentiometers "tv-K1,K2" and "tv-K3,K4"

The runtimes of K1,K2 and K3,K4 can be set separately.
Except in louver blind mode (J2):
=> tv-K1,K2 = motor runtime for all 4 relays
=> tv-K3,K4 = 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

Motor control:
UP = K1 or K3 ON, DOWN = K2 or K4 ON,
STOP = K1 and K2 or K3 and K4 OFF

LED-display in teach-in mode	Function (depending on mode)			
	Mode S	**Mode SN/SNs**	**Mode M1**	**Mode M2/J2**
	K1 Toggle	K1 ON	UP/STOP/DOWN/STOP Motor 1	UP/STOP Motor 1
	K2 Toggle	K2 ON	-	DOWN/STOP Motor 1
	K3 Toggle	K3 ON	UP/STOP/DOWN/STOP Motor 2	UP/STOP Motor 2
	K4 Toggle	K4 ON	-	DOWN/STOP Motor 2
	K1 ON	K1 ON	UP Motor 1	UP Motor 1
	K2 ON	K2 ON	DOWN Motor 1	DOWN Motor 1
	K3 ON	K3 ON	UP Motor 2	UP Motor 2
	K4 ON	K4 ON	DOWN Motor 2	DOWN Motor 2
	K1 OFF	K1 OFF	STOP Motor 1	STOP Motor 1
	K2 OFF	K2 OFF	-	-
	K3 OFF	K3 OFF	STOP Motor 2	STOP Motor 2
	K4 OFF	K4 OFF	-	-

03/2008