Radio remote-control receiver switches
FE3 S and FE3 SV (single channel)

SPECIAL FEATURES:

- **3 runtime modes:**
- **Temporary contact mode, impulse mode with and without time monitoring (1-120 min or sec)**
- **Local, group or central control with teach-in address codes**
- **Free-field range 50m**
- **Antenna built into housing**
- **Repeater available for increasing the range**
- **Compact housing (fits in flush-mounted switch box)**
- **Potential-free changeover contact 10A 250V AC**
  FE3 S: with 8mm creepage / clearance distance (switching of external small voltage permitted)
  FE3 SV: with 3 mm creepage /clearance distance, but with additional input for a wired push-button

GENERAL:

Radio remote control receiver switches FE3 S and FE3 SV can be used to switch or control electric equipment (lamps, pushbutton dimmers etc.) by means of wireless signals from the radio transmitters of the FS3/FR3 series, even without visual contact.

The free-field range of the above transmitters is 50m, but this range can be considerably reduced by walls, concrete ceilings, metal surfaces, damp soil etc. However, the range can be significantly improved by orienting the front of the housing towards the transmitter. The address codes for the device can be taught into the receiver switches.

In the case of the FE3 S, the changeover contact is potential-free (i.e. direct switching of small voltage is possible).

The FE3 SV has an additional input for connecting to a wired local push-button. However, the potential-free relay contact must not be used for direct switching of small voltage or different phases (creepage / clearance distance only 3mm)

APPLICATION:

Wireless control of lamps (pushbutton dimmers), fans, signal generators etc.
Transmission of non-time-critical switch contacts (motion sensors, heater thermostats etc.).

OPERATION:
Operating modes:
The "Mode" switch can be used to select the ON period in "min" or "sec". If the timer potentiometer "tv" is set to "T" (temporary contact mode), an retriggerable off-delay can be adjusted with the potentiometer "Nachlaufzeit bei Tastmode". This mode can be used e.g. to transmit the status of a switching contact. In this case, the transmitter must periodically transmit a short wireless refresh signal while (e.g. 15s/1s). The Fe3 will then switch off with the adjusted "off-delay" after receiving the last signal from the periodically transmission.
Runtime modes:
Temporary contact mode, switch mode with timer shut-off (after 1-120 min/sec) or simple switch mode (without time monitoring).
For further information, see "Practical tips on the Schalk remote control switching system".

TECHNICAL DATA:

Reception frequency	433.92MHz
Modulation type	OOK PWM
Address codes	teach-in via transmitter
Operating voltage	230V AC 50/60Hz
Power consumption	0.6W
Input B1:	
Line capacitance (L-B1)	max. 100nF
Glow lamps (L-B1)	max. 8 (1mA each)
Relay contacts	1 changeover contact 10A / 250V AC
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 C/250V
Ambient temperature	-10˚C to +45˚C
Insulated housing	flameproof to VDE 0304 part 3 level FV 0
Connections	socket terminals M3.5 (2x1.5/1x2.5mm^2)
External dimensions	43x43x33mm
Weight	55g
Colour (RAL)	grey 7035 / green 6029

ORDERING INFORMATION:

Part. No.	Type	Description
fe3s09	FE3 S	Radio remote control receiver switch 230V AC (1 changeover contact)
fe3sv9	FE3 SV	Radio remote control receiver switch 230V AC (1 changeover contact, with additional pushbutton input)

Accessories:

hc3500	HC 35	Top-hat rail clip

All radio controlled transmitters of the FS3/FR3-series can be operated with this receiver.

FE3 S(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 code"
(= address switch setting + transmitter button number)

Mode Switch

set to min: Off-delay is adjustable in minutes
set to sec: Off-delay is adjustable in seconds

"Prog." Button

brief press:
- Activate teach-in mode
- Select the next function
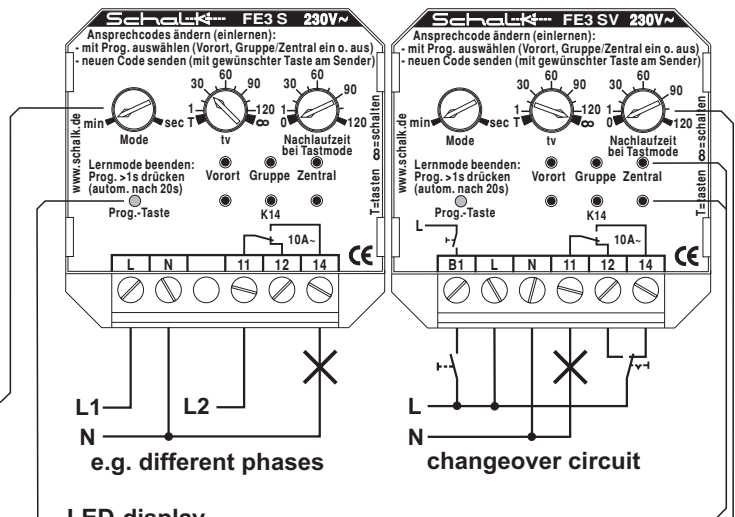
held down > 1 sec (in teach-in mode):
- Exit teach-in mode
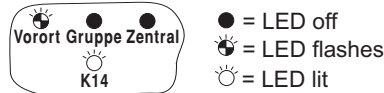
held down >10 sec (in switching mode):
Load the default address code (factory setting)
(Local and Central LEDs flash 5 times when done)

Programming Instruction:

1. Select the desired function on the FE 3S(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 S(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

e.g. different phases   changeover circuit

LED-display

● = LED off
☀ = LED flashes
☼ = LED lit

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:

LED K14 indicates the switch status
(flashes during timed operation and is lit without 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)

LED Display in teach-in mode:

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

Runtime Potentiometer "tv"

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

Potentiometer for setting a retriggerable off-delay in "Momentary Contact Mode"

Time scale in [min] or [sec] depending on mode.
(e.g. needed for overriding of transmission pauses during a periodic transmission)

Address Code and Functions (factory setting)

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

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

Trans-mission Source	Adresscode	LED-display in teach-in mode	Function in switchmode
	Transmitter adress switch & pushbutton		
Local (factory default setting)	1	☼ ● ● / ☼	K14 toggle
Group (no default settings)	can be taught in	● ☼ ● / ☼	K14 ON
	can be taught in	● ☼ ● / ☼	K14 OFF
Central (no default settings)	can be taught in	● ● ☼ / ☼	K14 ON
	can be taught in	● ● ☼ / ☼	K14 OFF

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