

OPERATING INSTRUCTIONS

Version 12/06



Remote timer „FS20 ZE“

Item no. 62 24 44



Dear customer,

Thank you for purchasing this product.

This product meets the requirements of both current European and national guidelines.

In order to preserve this condition and ensure the safe operation of the product we kindly ask you to carefully follow these operating instructions!

Please read the operating instructions completely and observe the safety and operation notes before using the product!

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Should you have any further questions, please contact our technical advisory service:

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1. Prescribed use

The remote timer 'FS20 ZE' serves exclusively for the remote control (time-controlled or manual) of various components of the FS20 wireless control system.

2. Scope of delivery

- Remote timer
- User manual

3. Technical specifications and features

- LC display
- Very secure data transfer as a result of extensive coding and address assignment options. These also allow several neighbouring systems to be operated without interfering with each other.
- Control/operation of up to 4 devices (switching and dimming), manual switch and dimming option
- Up to 6 programmable switch time pairs (switch on/off); switch time can be assigned to a desired days of the week
- Each switch time pair can control one of the 4 channels
- Random function (for example to simulate presence or particular control tasks)
- Power supply: 3 AA batteries
- Transmission frequency: 868.35MHz
- Modulation: AM
- Range: up to 100m (in free-field)
- Dimensions: 81mm x 130mm x 65mm (W x H x D)

4. Explanation of icons



This icon with an exclamation mark in a triangle points to particular dangers associated with the handling, function or operation of the product.



The 'hand' icon indicates special tips and operational notes.

5. Safety instructions



The product's guarantee becomes invalid, if the product is damaged as a result of the failure to observe these operating instructions! We do not assume any liability for any resulting damages!

Nor do we assume liability for damage to property or personal injury caused by improper use or failure to observe the safety instructions. In such cases the product's guarantee becomes invalid.

Do not use this product in hospitals or medical institutions. Although the product emits only relatively weak radio signals, these may cause life-support systems to malfunction.

This may also be the case in other areas.

The product is only suitable for use in dry indoor areas. Make sure it does not get damp or wet.

The product is not a toy and should be kept out of the reach of children.

As switching operations provide no return information, there is no guarantee that all the switched consumer loads really are 'off' or 'on'.

When switching consumer loads, whose 'on' or 'off' status could cause damage, you may need to directly check that their switch state is correct. Do not rely on switching commands that are transferred by a transmission path!

Do not leave packaging material lying around. This may become a dangerous plaything in the hands of children.

6. Notes on batteries/rechargeable batteries

- Keep batteries/rechargeable batteries out of the reach of children.
- Do not leave batteries/rechargeable batteries lying around as they could be swallowed by children or pets. In such a case, seek immediate medical care!
- Batteries/rechargeable batteries must never be short-circuited, taken apart or thrown into a fire. They might explode!
- Leaking or damaged batteries/rechargeable batteries may cause acid burns, if they come into contact with skin. Therefore, please make sure you use suitable protective gloves.
- Conventional batteries must not be recharged. There is the risk of fire and explosion!
- Make sure that the polarity (plus/+ and minus/-) is correct when inserting the batteries.
- If the device is not used for a longer period of time (for example, when stored), remove the inserted batteries to prevent the batteries from leaking and causing damage.
- Always replace the whole set of batteries. Do not mix full batteries with half-full ones. Always use batteries of the same type and manufacturer.

7. Inserting/replacing batteries

- Slide the battery compartment cover on the bottom of the remote timer in the direction of the arrow and remove it.
- Insert the three AA batteries with the correct polarity (+/-). You will find corresponding figures in the battery compartment.
- Close the battery compartment again.
- If the LED display does not light up or you notice that the range is diminishing, then you need to replace the old batteries with new ones. Make sure you always replace the whole set of batteries.

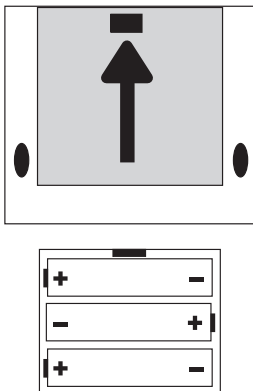


Figure 1: Battery compartment and positioning of the batteries



When batteries are changed, all settings (time, week day, house code, address groups, and subaddresses) are lost!

8. Control panel

Example:

time display,
program for device 4 'Aktiv'
(active), device 'Aus' (off)

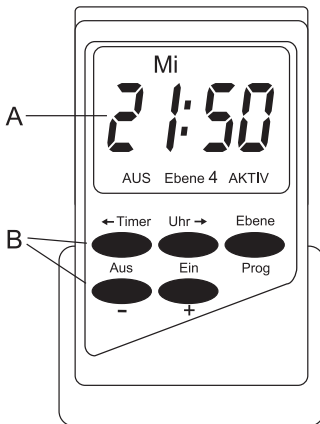


Figure 2

A LC display

B Keypad

- | | |
|------------|--|
| ← Timer | Timer of current device on/off
Press the control button for at least 3 seconds. |
| Uhr → | Programming the clock
Press the control button for at least 3 seconds. |
| Ebene/Prog | To switch devices (press less than 3 seconds) or
to program the switch times (press the control button for at least
3 seconds) |
| Aus/- | To switch device off (press less than 0.4 seconds) or
to dim down (press the control button for at least 0.4 seconds) |
| Ein/+ | To switch device on (press less than 0.4 seconds) or
to dim up (press the control button for at least 0.4 seconds) |

The battery compartment is located on the under side of the remote timer.

9. Operation



Please note:

Upon delivery the components of the FS20 wireless control system (for example, a wireless switch socket) do not respond to remote control commands from the remote timer. They must first be addressed according to the instructions provided in the respective device's user manual.

Only afterwards can the functions be controlled.

Before assigning an address to the device that is to be controlled, select a channel (1, 2, 3 or 4) for it with the '**Ebene/Prog**' button. The address assignment is set by briefly pressing (no longer than 0.4 seconds) the button '**Aus/-**' or '**Ein/+**' button.

The setting of the basic functions is possible immediately after the device addressing is assigned.

a) Using several transmitters

In the delivery state each transmitter in the FS20 wireless control system has its own, randomly set house code.



If you want to jointly control one or several receivers via different transmitters, you first need to coordinate the transmitters' house codes. The same house code must be set for each transmitter.

Make sure you coordinate or set this shared house code for all the transmitters before programming the receivers for the first time, as the associated house code is also sent to the receiver during this procedure.

The transmitters' channels are already set to the same addresses and only need to be changed if required.



Please note:

By pressing and holding the '**Ein/+**' and '**Aus/-**' buttons in the programming mode, subsequent vacant options are displayed automatically.

The programming mode is automatically ended after one minute in which no button has been pressed.

In order to set a switch time '**ACTIVE**' (active) or '**ZUFALL**' (random) must be activated. In addition, the timer of the assigned device must be active (display '**AKTIV**' in the basic display).

b) Basic display

In the basic display the following information will appear in the LCD:

- Upper display area: Current week day
- Middle display area: Current time
- Lower display area: Switch status of the current device
Number of the current device
Activation status of the corresponding timer

c) Manual switching/dimming

- Select the desired device by briefly pressing the '**Ebene/Prog**' button (1, 2, 3 or 4). The device number shows up in the display.
- With the '**Ein/+**' or '**Aus/-**' buttons you can switch the desired device on, off or change the dimming.

Buttons are pressed quickly (to switch) or for longer than 0.4 seconds (to dim), as required.

'**Ein/+**' button To switch device on or to dim up

'**Aus/-**' button To switch device off or dim down



The current switching state is shown on the display.

d) Setting the time

- Press and hold the '**Uhr →**' button longer than 3 seconds. The hour starts to blink on the display.
- With the button, '**← Timer**' or '**Uhr →**' specific hours, minutes and week day displays can be changed.

The currently editable piece of information blinks. By pressing the '**Ein/+**' or '**Aus/-**' buttons, you can assign the desired values (by holding the buttons longer, the values appear more quickly).

- To accept a value on the display, press the '**Ebene/Prog**' button.

The seconds (not displayed on the LCD!) are set to zero and the clock is started.

On the display the time and week day are shown with a blinking (once per second) colon appearing between the hour and the minute values.

Now you can program and operate the basic functions of the FS20 wireless control system components.



To use the timer function, or for timer programming of the receivers, please observe the following procedures in the user manual.

Follow the same procedures even when you plan to build an extensive system with several FS20 wireless control system components.

e) Programming the switch time, random function

- Press and hold the '**Ebene/Prog**' button longer than 3 seconds.

The setting for the first switch-on time is displayed (EIN Prog. No. 1).

'INAKTIV' blinks on the display.

- Set the activity status for program 1 by pressing the '**EIN/+**' or '**Aus/-**' buttons (INAKTIV, AKTIV, ZUFALL).

When 'ZUFALL' (random) is selected, the switching between on and off status occurs in random time increments (a change is possible every 8 minutes).

- By pressing the '**Uhr →**' button the hour display is shown (the hour value blinks); to change the hour setting press the '**Ein/+**' or '**Aus/-**' buttons (switch-on time hour).
- By pressing the '**Uhr →**' button again the minute display is selected (minute value blinks) and with the '**Ein/+**' or '**Aus/-**' buttons the minute value can be changed (switch-on time minute).
- An additional pressing of the '**Uhr →**' button enables the setting of the week day for the program.

The activation of the week day is set by pressing the '**Ein/+**' button; the week day is underlined.

Deactivation of a week day is set by pressing '**Aus/-**'; the line under the previously activated week day is removed.

In this way you can set switch times for specific week days, for example only Monday through Friday.

In the following image of the LCD (see figure 3) the program 1 has a switch-on time of 21:50 (9:50pm) for Monday through Friday.

Mo Di Mi Do Fr Sa So

2 1:50

EIN

Prog.Nr. 1

AKTIV

Figure 3: Example of switch time

- By pressing the 'Uhr →' button again you can set the level; thereby selecting which device this programme should be assigned to.

The number behind 'Ebene' (level) blinks. Select the desired device (1, 2, 3 or 4) by pressing the 'Ein/+' or 'Aus/-' buttons.

- Pressing the 'Ebene/Prog' button allows you to set the switch-off time of programme 1. Set the individual times and days the same way as the switch-on times were set.



The selection of the activity and the corresponding device are no longer editable here, since they have already been determined by the programming of the switch-on time.

- After programming the switch-off time there are two possible selections:

By briefly pressing the 'Ebene/Prog' button the programming is applied to the next program.

or:

By pressing the 'Ebene/Prog' button longer (longer than 3 seconds), the programming mode is ended.



When the programming mode is ended all 4 timers (devices 1 to 4) are automatically activated and the specified switch programming is complete.

f) Manual control

As needed, the controlled device can be manually switched on or off after the correct device has been selected by pressing the '**Ebene/Prog**' button. An activated program can also be deactivated.

- **Switching on/off**

Manual on and off switching is controlled by pressing the '**Ein/+**' or '**Aus/-**' buttons.



The current switch state is shown on the display.

This manual control has priority over the programs currently running. Subsequent programs are not influenced.

- **Activating / deactivating programs**

If necessary, you may deactivate an active program without having to reset the programming.

To do so, proceed as follows:

Press the '**←Timer**' button longer than 3 seconds, until the '**AKTIV**' symbol is no longer visible on the display.

All programs that are assigned to this device are immediately deactivated. The timer for the selected device can be re-activated in the same way.

When deactivating only a single program for a device and not all programs, change to programming mode as described in section 'e)'.

By pressing the '**Ebene/Prog**' button the corresponding number of times you can select the activity of the desired program number and by pressing the '**Ein/+**' or '**Aus/-**' buttons change the status of the activity to '**INAKTIV**' (inactive).

- **Premature ending of the random program**

When the timer is deactivated (by pressing the '**← Timer**' button longer than 3 seconds) or when programming mode is entered from the hour time or switch time, active random programs are prematurely ended.

g) Programming a receiver's timer function

In order to program the timer function of a receiver, the appropriate device must first be selected by the transmitter ('**Ebene/Prog**' button).

Press and hold the '**Ein/+**' and '**Aus/-**' buttons **simultaneously** for one to five seconds (1 to 5 sec).

This command is used to start, as well as to stop the programming of the timer.



For information on how to program the timer, see the instructions in the receiver's user manual.

10. FS20 address system basics

The FS20 wireless control system operates with a 'house code'. This means that your neighbour can also use the same wireless control system and the two systems will not interfere with each other (provided that the house code has been programmed differently).

256 different addresses can be set within a house code. These addresses are divided into 4 address types (available number is in brackets):

- Single addresses (225)
- Function group addresses (15)
- Local master addresses (15)
- Global master address (1)

One address from each address type can be assigned to each receiver. This means that each receiver can respond to up to four different addresses, but only ever to one address per address type. If you need a receiver to respond to more than one transmitter, you can program the transmitters to the same address or, if different transmitter address types have been set, you can program the receiver consecutively to these different addresses.

The individual address types have the following function:

- **Single addresses**

Each receiver should be set to a single address so that it can be controlled separately.

- **Function group addresses**

Several receivers are defined as a functional unit by being assigned to a function group address. If, for example, all the lamps in a house are assigned to a function group, then all the lamps in the entire house can be switched on or off by pressing one button.

- **Local master addresses**

Several receivers are spatially defined as one unit and controlled via the local master address. If, for example, all the receivers in a room are each allocated to a local master address, then all you need to do is press one button when leaving the room to switch off all the consumer loads in the room.

- **Global master address**

Several receivers are assigned to the global master address and are jointly controlled via this address. All the consumer loads can easily be switched off simply by pressing one single button when leaving a house, for example.



See the example in section 11. b) .

This address system opens up a variety of possibilities. For example, you can even implement access authorisations by assigning three garage doors to different single addresses and a joint function group ('garage doors').

Several people can then each be given a hand-held transmitter with a relevant single address for one garage door, while all the garage doors can be opened via a hand-held transmitter with a programmed function group address or all the doors can be automatically closed in the evening via an FS20 timer.



The various address types and addresses are only set on the transmitter and these settings are transmitted to the receivers via the address assignment. A receiver must be in programming mode in order for this address assignment to take place.

11. Integrating the remote timer into the address system

The house code, an address group and a subaddress are used for coding the transmitter and its switching channels. It is also possible with special address group assignments to program the remote timer as a local or global master.

This addressing makes 225 single addresses, 15 function groups, 15 local master addresses and 1 global master address available within each house code to the hand-held transmitter.



Please be aware:

By pressing and holding the 'Ein/+' and 'Aus/-' buttons in programming mode the selectable options are automatically displayed one after another.

With the '← Timer' or 'Uhr →' buttons the currently editable option (blinks in LCD) can be changed and by pressing the buttons repeatedly the individual options are displayed one after another.

By pressing the 'Ebene/Prog' button you can either go directly to the next menu item or immediately end the programming mode.

a) Setting house code and addresses

By inserting the batteries the following basic settings are activated by the remote timer:

- A random house code is generated (65535 different possibilities), for example '12341234'.
- Address group 11 for all 4 devices
- Subaddress of device 1: 11
Subaddress of device 2: 12
Subaddress of device 3: 13
Subaddress of device 4: 14



These basic settings can be individually edited or coordinated with an existing FS20 wireless control system in the setup mode.

To set the house code, address groups and subaddresses proceed as follows:

- Press and hold both '**Ein/+**' and '**Aus/-**' buttons simultaneously for more than 3 seconds to open the setup mode.
- The first half (4 digits) of the randomly generated house code appears in the display. The indicator displayed will be 'HC' and '1'.
- Press the '**← Timer**' or '**Uhr →**' button to select the digits to be changed (numbers blink). Edit each number (must be a digit between 1 and 4!) with the '**Ein/+**' or '**Aus/-**' button.
- Once the first half of the 8-digit house code is entered, press the '**Uhr →**' button again to display the second half of the code ('HC' and '2' appear in the display).
- Edit the remaining 4 digits of the house code as described above.
- By pressing the '**Uhr →**' button again you move to the right in the display area and can set the address group for device 1.

The display will now read 'AG' and 'Ebene 1'.

- Press the '**← Timer**' or '**Uhr →**' button to select the digits to be changed (numbers blink). Edit each number with the '**Ein/+**' or '**Aus/-**' button.
- After completing the assignment of group addresses, press the '**Uhr →**' button in a new display area to set the subaddress for device 1.

The display will now read 'EA' and 'Ebene 1'.

- Press the '**← Timer**' or '**Uhr →**' button to select the digits to be changed (numbers blink). Edit each number with the '**Ein/+**' or '**Aus/-**' button.
- Press the '**Uhr →**' button again and exit the current area to the right of the display in order to set the address group for device 2.

The display will now read 'AG' and 'Ebene 2'.

- Follow the same procedure as for device 1 to set the address groups and subaddresses for devices 2, 3 and 4.
- If you do not wish to change a particular setting, quickly press the '**Ebene/Prog**' button to move immediately to the next setting option.

It is not necessary to press the '**Uhr →**' button repeatedly to navigate through the display area.

- Exiting the setup mode is only possible in the last setting option (display shows: EA Ebene 4).

Press the '**Ebene/Prog**' button here to exit the setup mode. By pressing the '**Uhr →**' button again you return to the start (house code).



After programming the house code, address groups and subaddresses the execution of the programs by the transmitter controlled FS20 device can be set in accordance with the user manual.

Select the desired device with the '**Ebene/Prog**' button and press the '**Ein/+**' or '**Aus/-**' button.

b) Example of an address assignment

When you require a large, extended system it is advisable to select addresses systematically so that you have an overview of the addresses that have already been assigned and so that you can jointly control the programmed receivers simply and logically in groups.

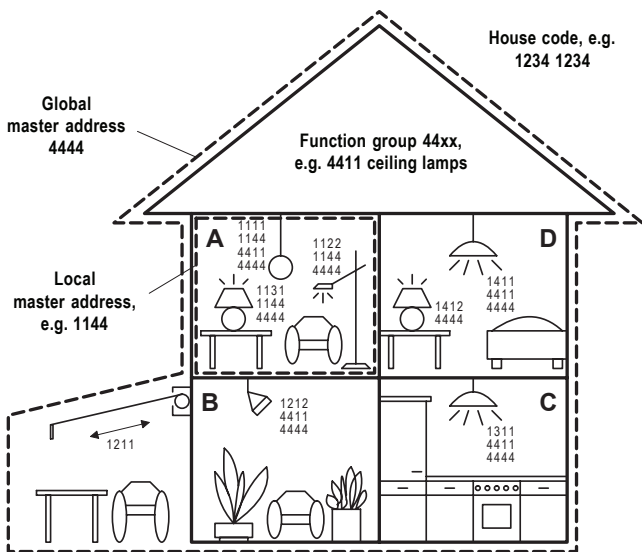


Figure 4: Example of an address assignment

A different address group has been assigned to each room:

- Room A: 11
- Room B: 12
An awning is also allocated to room B.
- Room C: 13
- Room D: 14



Possible address groups are:

11, 12, 13, 14, 21, 22, 23, 24, 31, 32, 33, 34, 41, 42, 43

In order to be able to separately control each receiver, you need to program each receiver to a single address. A subaddress is also required in addition to the address group that is already selected (room A: 11, room B: 12, room C: 13, room D: 14).



The following 15 subaddresses are possible for each address group:

11, 12, 13, 14, 21, 22, 23, 24, 31, 32, 33, 34, 41, 42, 43

In the example the awning is programmed to the single address 1211, which is comprised of the address group 12 and its subaddress 11.

All the receivers in room A have also been programmed to a local master address (1144 in the example).



For the local master address 44 is always set as the subaddress, while one of the 15 local master addresses (11, 12, 13, 14, 21, 22, 23, 24, 31, 32, 33, 34, 41, 42, 43) can be selected via the address group.

Example: 1144, address group 11, subaddress 44

All the lamps in the house can be controlled via the global master address 4444.

The awning was deliberately not programmed to this address and can therefore only be addressed via its single address (1211). It must be operated separately in this example.

The ceiling lamps in all the rooms are also combined in a function group (4411 in the example, address group 44, subaddress 11) and can therefore be jointly controlled.

To select one of the 15 function groups, you need to set 44 as the address group and a value between 11 and 43 (11, 12, 13, 14, 21, 22, 23, 24, 31, 32, 33, 34, 41, 42, 43) as the subaddress.

12. Handling

- Operation is only permitted in dry, indoor areas.
- Protect the product against humidity, cold, heat, dust and direct sunlight.
- Never dismantle the product. Only have the device repaired by a skilled technician otherwise the device's licence will become invalid.
- Do not place the device on valuable furniture without suitable protection. Chemical reactions between the plastic casing and the furniture surface may cause material changes or dents. The underside of the casing may also cause scratches.
- Even a fall from a low height can damage the product.

13. Maintenance and cleaning

The product requires no servicing except for battery replacement.

Clean the product with a soft, clean and dry cloth. To remove heavier dirt, use a cloth which is slightly moistened with lukewarm water.

Never use solvent-based cleaning agents, as these may damage the surface of the plastic casing and its inscription.

14. Disposal

a) General information



When the product is no longer usable, dispose of it in accordance with the applicable statutory regulations.

b) Batteries and rechargeable batteries

As the consumer, you are legally obliged (**regulation on the disposal of batteries**) to return all your used batteries and rechargeable batteries. **Do not dispose of your used batteries via the household rubbish!**



Batteries/rechargeable batteries containing harmful substances are marked with the following icons, which alert you to the fact that disposal via the household rubbish is prohibited. The identifiers for the respective heavy metals are: **Cd**=cadmium, **Hg**=mercury, **Pb**=lead (identifier is on the battery/rechargeable battery, for example, under the rubbish bin icons on the left).



You can return your used batteries/rechargeable batteries free of charge to any authorised disposal station in your area, in our stores or in any other store where batteries/rechargeable batteries are sold!

By doing so you comply with your legal obligations and also make a contribution to environmental protection.

15. Tips and notes

Ranges and interference

- The FS20 wireless control system works in the 868MHz range, which is also used by other radio services. Therefore devices that operate on the same or neighbouring frequency may restrict both its operation and its range.
- The specified range of up to 100m is the free-field range, which means the range with visual contact between the transmitter and receiver. In practice, however, walls, ceilings, etc. between the transmitter and the receiver may affect and reduce the range.

Other causes of reduced ranges:

- All types of high-frequency interference
- Any buildings or vegetation
- Conductive metal parts that are located near the devices or within or near their transmission path, for example, radiators, metallised insulation glass windows, reinforced concrete ceilings, etc.
- Influence on the radiation pattern of antennas due to the distance from the transmitter or receiver to conductive surfaces or objects (also to human bodies or the ground)
- Broadband interference in urban areas that reduces the signal-to-noise ratio; the signal is no longer recognised due to this 'noise'
- Interference radiation resulting from insufficiently shielded electronic devices, for example, operating computers or similar

16. Declaration of conformity (DOC)

We, Conrad Electronic, Klaus-Conrad-Straße 1, D-92240 Hirschau (Germany), hereby declare that this product complies with the fundamental requirements and other relevant regulations of directive 1999/5/EG.



You can find the declaration of conformity for this product at www.conrad.com.



100%
recycling
paper.

Bleached
without
chlorine.

Imprint

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