EN **DuoFern Manual Control**
Instruction manual

Item no. 3445 00 60
Type: 9493-1

describes how to use the DuoFern Manual Control.

i **1.1 How to use this manual**

◆ Before you begin, please read this manual through completely and follow all the safety instructions.

◆ Please also read the instruction manuals for the accessories (if available) as well as the manuals for the respective connected electrical appliances.

◆ This manual is part of the product. Please store it in an easily accessible place.

◆ When passing the DuoFern Manual Control on to a third party, this manual must be passed on as well.

◆ Damage resulting from non-compliance with this manual and the safety instructions will void the warranty. We assume no liability for any resulting damage.

i **2. Hazard symbols**

The following hazard symbols are used in this manual:

Danger area / dangerous situation

⚠ **ATTENTION!**

This hazard may lead to property damage.

ℹ **2.2 Symbols and depictions used**

ℹ Other useful
information

Please read the respective
manual

1. Procedures

2.

◆ Itemisation

1) or a) Lists

Activated menu symbols and setting
parameters are shown on the display.

The use of defective equipment can lead to personal injury and damage to property.

◆ Never use defective or damaged devices.

◆ Check the DuoFern Manual Control for damage.

◆ Please contact our Customer Service if you find any damage, see page 52.

Improper use leads to an increased risk of injury.

◆ Instruct all relevant parties in how to use the DuoFern Manual Control safely.

◆ Children must not play with the device.

i 3.1 Intended use

Only use the DuoFern Manual Control to log on and control DuoFern devices.

Operating conditions

◆ The associated tubular motors must be fitted with mechanical or electronic end position switches.

◆ Only operate the DuoFern Manual Control in dry rooms.

◆ The installation and operation of radio systems is only permitted for systems and devices where a malfunction in the transmitter or receiver would not cause a danger to persons or property or where this risk is already covered by other safety equipment.

> i   Radio systems that transmit on the same frequency can cause interference.

Using the DuoFern Manual Control for any other purpose than previously mentioned is not permissible.

Improper use can lead to serious injuries or property damage.

Never use the existing radio system (e.g. DuoFern radio system) and its components for the remote control of devices and systems with increased safety-relevant requirements or where there is an increased risk of accidents. Applications of this kind require additional safety equipment. Observe the respective statutory regulations for the installation of such systems.

3.3 Glossary - definition

2014/53/EU
◆ European Radio Equipment Directive

DuoFern
◆ RADEMACHER radio system used to control compatible products.

HomePilot®
◆ The HomePilot® is a central control unit for RADEMACHER radio products.

a)

b)
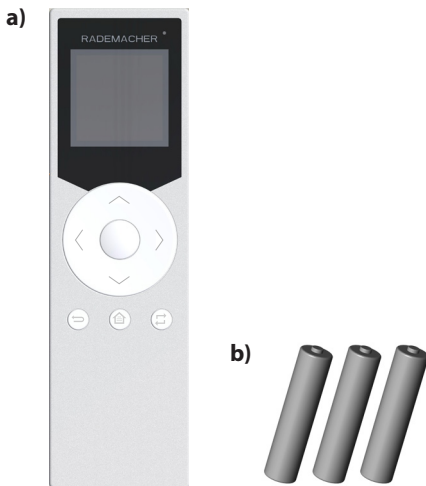
Included in delivery

a) 1 x manual control
b) 3 x 1.5 V battery, type AAA (micro)
c) 1 x instruction manual (not illustrated)

After unpacking please check and compare...

... the contents of the package with those specified above.
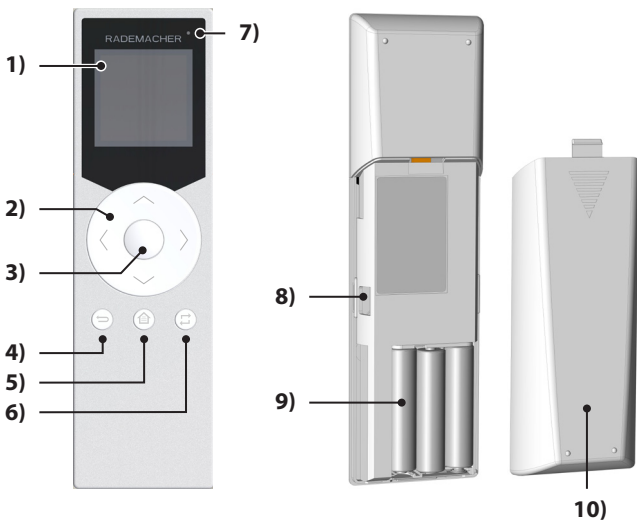
1) Display
2) Multidirectional toggle switch with control and navigation buttons
3) OK / stop button
4) Back / cancel button
5) Menu / home screen button
6) Group / channel selection button
7) Status LED
8) USB port (micro USB)
9) Battery compartment
10) Battery cover

The DuoFern Manual Control serves as a central control for DuoFern devices. It can be used, for example, to remotely control roller shutters, Venetian blinds, slats, awnings or lighting conveniently by radio.

In addition, you can configure DuoFern devices and automate them in groups with the DuoFern Manual Control.

General information	
Nominal voltage:	4.5 V (DC)
Battery type:	3 x 1.5 V type AAA (micro)
Battery life:	approx. 2 years
Permissible ambient temperature range:	0°C to < 40°C
Protection class:	II (*only for use in dry rooms*)
Dimensions (W x L x H):	165 x 48 x 22 mm

DuoFern radio technology	
Transmission frequency:	434.5 MHz
Transmission power:	max. 10 mW
Range:	In buildings: approx. 30 m * Outdoors: approx. 100 m ** Depending on the building structure*
Maximum number of groups:	9
Maximum number of devices per group:	21
Maximum number of DuoFern devices:	45

Pull the release film off the battery compartment, then the start wizard will start automatically.

The start assistant will also start automatically in the previously set language after changing the battery or resetting the manual control.

Setting sequence in the start wizard:

◆ Language
◆ Date (day. month)
◆ Year
◆ Time (hours:minutes)
◆ Location of the manual control

 ● **In Germany**
 Enter the first two digits of your German postcode.

 ● **International**
 Select the corresponding location from the list.

Confirm each entry with the OK button.

Continue with logging on the DuoFern devices

1.	100% **No device registered** Press OK to log in 12:40 We 01.01.2020	If no DuoFern devices have been logged on yet, the message shown opposite appears.

2.	◯	Press the OK button to switch to the log-on menu.

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3.		Switch the desired DuoFern devices to log-on mode.
3.1		Press the "Search devices" button.
3.2		All of the DuoFern devices found are then displayed.
		If required, you can define the name and group affiliation for the devices found, as described on page 25.
4.		The home screen appears after the final setting, see example.
		The DuoFern Manual Control is now ready for operation.

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A ──────

B ──────

C

A ──────
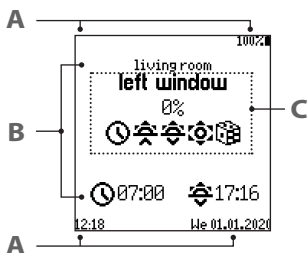
Example
Home screen with logged-on
DuoFern device.

A **Manual control status / setting**

B **Group information**

◆ Group name and switching times

C **Device information**

◆ Device name

◆ Status of the selected DuoFern device

◆ Activated functions

> **i** When the manual control wakes up (is lifted), the status of
> the selected DuoFern device is retrieved and displayed.
>
> ⟨ ⟩ You can use the right / left buttons to switch
> between the individual devices in the group.
>
> The up / stop / down button can be used to
> control groups or the selected device.
>
> The status LED shows whether all DuoFern end
> units have received and confirmed the switching
> signal.

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10. Changing a device/groups

You can use the group / channel selection button on the home screen or in the menus to switch between groups and devices.

1.		Open the pop-up menu of the current group or the currently selected device.
2.		Use the multidirectional toggle switch to select a group or device.
3.		Confirm the selection with the OK button.

11. Brief description of the main menu

You can use the menu / home screen button to call up the main menu to configure the selected device or the selected group. You can also use the button to take you straight back to the home screen.

Menu overview, see next page.

Main menu

> * The available device menus are dependent on the device selected on the home screen and therefore vary.

In this menu you can switch automatic mode on / off for the selected group or for a selected DuoFern device.

MANU **Display on the home screen when automatic mode is deactivated**

Active automatic functions are shown with the corresponding automatic symbol.

1.	Open the menu:	***Main menu > Automatic mode***
		The current status for the selected device or all devices is retrieved and displayed after opening the menu.
2.	⬤	Open the pop-up window for the settings with the OK button.
3.		Select and confirm the desired setting.

Symbols on the home screen when automatic mode is activated

🕘	Time (switching times)
🔼	Dawn (astro)
🔽	Dusk (astro)
☀	Sun (external sensor)
🎲	Random function

> **i** Alternatively, automatic mode can also be switched on / off on the home screen by pressing and holding the OK button (approx. 3 seconds) for the selected group or selected device.

In this menu, you can automate your selected group based on time or dawn and dusk.

The following options are available for selection:

- ◆ Off
- ◆ Same for every day
- ◆ Weekdays / weekend
- ◆ Individual

1. Open the menu: **Main menu > Automation**

```
Automation
living room          >
 Same for every day
Random function
```

The current status for the selected group is displayed after opening the menu.

2. ◯ Open the pop-up window for the options with the OK button.

3. Select and confirm the desired option.

i Once you have activated an option, a right arrow appears next to the group name to open the "**Switching time mode**" button, see next page.

In addition, the "**Random function**" appears for further selection. To set the random function, see page 23.

4. 〉

Depending on the option previously selected, you will either move to the "**Switching time mode**" menu directly or via the day selection window.

| Switching time mode |
| Time |
| Astro |

Options in switching time mode:

◆ **Time**
  ● Two switching times (time 1 and 2)
◆ **ASTRO**
  ● Morning = dawn
  ● Evening = dusk

14.1 Time settings

5.   Open the "**Time**" menu and select time 1 or 2.

5.1 ◯   Open the respective pop-up window with the OK button.

5.2   Set and confirm the desired switching time.

i

The automatic timer for the devices in the group are activated after confirming the
time. A status dialogue appears on the display that closes automatically if the transmission is completed successfully.

Devices in which the automatic timer could not be activated are listed. Exit the dialogue window with the back button.

Configuring target statuses

6. $\rangle$

Once you have activated a time,
a right arrow appears next to the menu item
to open the menu.

Time 1
Switching time
07:00
Same for all device☑
Up

The set switching time and the configuration
of the possible target statuses are displayed
in this menu.

6.1 ◯

Open the pop-up window with the
OK button.

Possible options:

Same for all devices ☑ A commonly supported target status
can be selected for the entire group.

Individual If the "Individual" option is selected, the tick
is removed and a list of devices appears from
which a target status can be individually
selected.

i

Pay attention to the links between the
settings in switching time mode.

Switching time settings:
- < 12:00 hours - the "Morning" option is blocked
- ≥ 12:00 hours - the "Evening" option is blocked

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14.2 ASTRO settings

In this menu you have the option to automate the devices in the group based on the dawn or dusk calculation. The switching times shift daily according to dawn and dusk.

7. Open the "**ASTRO**" menu and select astro mode for "**morning or evening**".

Possible options:

Morning	The group receives a switching command for the dawn time newly calculated each day.
Evening	The group receives a switching command for the dusk time newly calculated each day.

7.1 ( ) Open the pop-up window for the respective ASTRO mode with the OK button.

7.2 Confirm the calculated switching time for the current location, thus activating the respective ASTRO mode.

> **i** The automatic dawn and dusk function for the devices in the group is activated after confirming the astro time. A status dialogue appears on the display that closes automatically if the transmission is completed successfully.
>
> Devices in which the automatic function could not be activated are listed. Exit the dialogue window with the back button.

Varying the respective ASTRO time

7.3 〉

Once you have activated an astro time, a right arrow appears next to the menu time to open the menu.

```
Astro evening
Switching time
 17:16
Twilight today
 17:16
Time delay
Earliest
Latest
```

The calculated switching time can be individually adjusted in this menu.

Possible options:

◆ **Time delay**

The calculated dawn and dusk time is delayed by the number of minutes set here (+/- 60 min).

◆ **Earliest**

Set the earliest time at which the switching command should be executed.

◆ **Latest**

Set the latest time at which the switching command should be executed.

ℹ Pay attention to the links between the settings in switching time mode.

ASTRO settings:
◆ Morning - "Time 1" is blocked
◆ Evening - "Time 2" is blocked

14.3 Setting the random function

The random function enables a random delay of the set timer periods ranging between 0 and 30 minutes.

1. Open the menu: *Main menu > Automation > Random function*

> **i** The random function is only available when automation has been defined for the group.

2. ( ) Open the pop-up window for the random function with the OK button.

3. Activate and confirm the function.

Symbol on the home screen when the random function is activated

The cube symbol is displayed on the home screen for all devices in the group when the random function is activated.

The menu displays the status of the automatic device functions.

1. Select the desired automatic function using the multidirectional toggle switch.

i The current status for the selected device is retrieved and displayed after opening the menu.

2. Open the pop-up window for the settings with the OK button.

3. Select and confirm the desired setting.

i The respective DuoFern device always acknowledges when an automatic status has been changed.
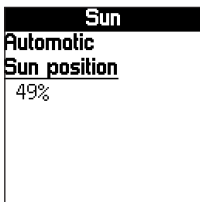
ℹ **15.3.1 Automatic solar function** **EN**

For DuoFern end units with the automatic solar function, the roller shutter moves to the sunshine position after the solar function is activated.

> ℹ The run time must be configured prior to setting the sunshine position, see page 30.

1.

```
        Sun
Automatic
Sun position
 49%
```

Activating the automatic solar function, as described above, provides access to other setting options by pressing the $\rangle$ button.

The status of the automatic solar function and the current sunshine position are displayed again in the "Automatic solar function" submenu.

2. ◯ Select the sunshine position and open using the OK button.

3. You can move to the desired sunshine position by pressing and holding the up / down button.

The position reached is displayed after releasing the up / down button. This can be accepted with the OK button or re-adjusted with the up / down button.

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If you do not want the roller shutter to close fully to the lower end point, you can use this function to configure an arbitrary position **(e.g. as the ventilation position)**.

When closing automatically, the roller shutter stops at the ventilation position, but it can subsequently be fully closed manually.

i The run time must be configured prior to setting the ventilation position, see page 30.

1. ⊚ Select the desired function using the multidirectional toggle switch.

i The subsequent setting of the ventilation position is only possible when the ventilation function is activated.

2. ◯ Open the pop-up window for the ventilation position.

3. You can move to the desired ventilation position by pressing and holding the up / down button.

The position reached is displayed after releasing the up / down button. This can be accepted with the OK button or re-adjusted with the up / down button.

This function can be used to set intermediate values, setting the device to the intermediate value when it is next switched on.

1.   Select the desired function using the multidirectional toggle switch.

i   The subsequent setting of the intermediate position is only possible when the intermediate function is activated.

2.   Open the pop-up window for the intermediate position.

3.   You can move to the desired intermediate position by pressing and holding the up / down button.

The position reached is displayed after releasing the up / down button. This can be accepted with the OK button or re-adjusted with the up / down button.

Reset after a stop command

The activation of this function means that the new position is adopted as the intermediate position if there is a stop command.

The run time setting is used so that you can specifically move to certain percentage positions (e.g. sunshine position or ventilation position).

> Read the information provided in the operating manual of the device used.

If required, this function can be used to change the rotation direction or mode of a connected DuoFern device (e.g. a radio tubular motor).

Reversal of rotation direction

It is not necessary to re-wire the motor if the rotation direction of the connected motor is wrong ($\diagdown$ moves the roller shutter downwards and $\diagup$ moves the roller shutter upwards). The rotation direction of the motor can be easily changed using the "**Reversal of rotation direction**" function.

Mode change

A mode change alters the action executed by a device at an up or down command.

For example, if a device is switched on at an up command, this action is inverted by the mode change.

> **i** On and off commands remain unaffected by this.

You can use the DuoFern Manual Control to set the end points of a connected RADEMACHER electronic tubular motor.

> **i**
>
> The end point function is only available for RADEMACHER electronic tubular motors from 2000 onwards.
>
> The end points cannot be set with the DuoFern Manual Control for tubular motors connected in parallel.

Centre position

We recommend that you initially move the roller shutter to the centre position in order to ensure the correct setting of the end points.

1. ◯	Open the "**Centre position**" menu.
2. ◎	Use the up / down buttons to move the roller shutter to the centre position and press the OK / stop button to stop the motor.
	For more, see next page.

End point setting

3.		Open the "**End point setting**" menu.
4.		Move the roller shutter to the desired position with the up / down buttons.
		The end position is stored in the tubular motor after releasing the up / down button.
4.1		If the desired end position is not correct, the roller shutter can be moved again in the opposite direction by pressing the up / down button in order to repeat the setting.
		The tubular motor moves for approx. 5 seconds and then stops automatically.
4.2		Reset the desired end position with the up / down buttons.
5.		Exit the "End point setting" menu.

This function can be used to switch DuoFern devices to log-on or log-off mode without even having to press a button for the respective mode on the device.

1.	⊚	Select the desired mode (log-on / log-off).
2.	◯	The respective command is sent to and confirmed by the DuoFern device by pressing the OK button.
	🕐 **2 minutes**	The devices are then in the selected mode for 2 minutes.
		This can be prematurely terminated with the "**Stop**" function.

i **15.10 Factory settings**

This function can be used to reset the selected DuoFern device to the default factory settings without removing the DuoFern devices logged on to this device.

After selecting the "**Reset**" option, a message appears stating that you can execute a software reset by pressing the OK button or exit the function by pressing the back button.

i **15.11 Software version**

The software version of the currently selected device is displayed in this menu.

A tick symbol in this menu shows which devices are in the currently selected group.

 Devices can be added or removed from the groups using the multidirectional toggle switch and the OK button.

i Adding a device to a group for which automation is already stored means that the DuoFern Manual Control activates the automatic functions on the respective device once they have been added. This is confirmed by the respective DuoFern device.

i **16.2 Sorting**

This menu is used to define the order of the devices within the group. The current order of the devices within the selected group is shown as a list.

 You can select, move and place a device in the desired position using the multidirectional toggle switch and OK button.

You can enter and save the group names in this menu.

```
  assign names
 living room
 0 1 2 3 4 5 6 7 8 9
 a b c d e f g h i j
 k l m n o p q r s t
 u v w x y z _ - : &
 aAéö      ← 🗑 💾
```

You can use the multidirectional toggle switch to change the name of the group using the on-screen keyboard.

i **16.4 Jog mode**

If required, you can activate jog mode for a group. For example, this can be used for the convenient setting of the slats on Venetian blinds.

Jog mode

Activating the jog mode function means that a short up or down command is sent to the device or devices for this group when you press the up or down button on the home screen.

> **i** The shutter can also be moved to the desired position when jog mode is activated by pressing and holding the up or down button.

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In this menu you can log DuoFern devices on and off the DuoFern Manual Control. The menu also provides the "**Clear-up**" option to remove unavailable devices from the DuoFern Manual Control.

> To do so, please also read the operating manual of the respective DuoFern device.

Maximum number of logged-on devices

You can log a maximum of 45 DuoFern devices on to the DuoFern Manual Control.

Additional information about logging on can be obtained from the "Login matrix" on our website at:

www.rademacher.de

In this menu you can log DuoFern devices on to the DuoFern Manual Control.

Two options are available:

◆ Search for devices   Automatic device search
◆ Radio code   Log on devices via a radio code

Search for devices

1.		Switch the desired DuoFern devices to log-on mode.

To do so, please also read the operating manual of the respective DuoFern device.

2.	◯	By pressing the OK button, the DuoFern Manual Control starts to search for devices in log-on mode.
	🕐 **2 minutes**	The search is active for a maximum of 2 minutes.
		Meanwhile, the status LED on the DuoFern Manual Control flashes green.
2.1		Devices found are listed on the display.
2.2	◯	If all the desired devices are found, the search can be terminated prematurely by pressing the OK button.
	or	
	⟲	Cancel the search.

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```
  Found devices
2-channel actuator ...
2-channel actuator ...
```

After terminating the search, a list of the devices found will be displayed for further processing.

Here you can now define the names and group affiliation for the devices found, as described on page 25.

i   Devices that have accidentally not been assigned to a group can be assigned via the "**Groups > Participants**" menu (see page 35).

Radio code (logging on devices via the DuoFern radio code)

It is also possible to log on the DuoFern devices via the DuoFern radio code in the first two hours after switching on the power supply.

1.		To do this, open the "**Radio code**" menu.
2.		Enter the DuoFern radio code using the on-screen keyboard and finally select the "Save" symbol.
2.1		Save the DuoFern radio code by pressing the OK button, thus sending a log-on command to the DuoFern device.
3.		The device is shown on the display of the manual control after successfully logging on. Here you can now define the name and group affiliation for the devices found, as described on page 25.

i **17.2 Logging off devices** **EN**

In this menu you can log DuoFern devices off the DuoFern Manual Control.

Two options are available:

◆ Start the log-off process
◆ Remove devices manually

Starting the log-off process

1. Switch the desired DuoFern devices to log-off mode.

To do so, please also read the operating manual of the respective DuoFern device.

2. By pressing the OK button, the DuoFern Manual Control starts to search for devices in log-off mode.

2 minutes The search is active for a maximum of 2 minutes.

Meanwhile, the status LED on the DuoFern Manual Control flashes red.

2.1 Logged-off devices are listed on the display.

2.2 If all the desired devices are logged off, the log-off dialogue can be terminated prematurely by pressing the OK button.

or

Cancel the log-off process.

Removing devices manually

This function can be used to remove devices from the DuoFern Manual Control without having to start log-off mode on the DuoFern device.

1.	◯	A list of the devices logged on to the DuoFern Manual Control is displayed by pressing the OK button.
2.	◉	Select the device to be removed using the multidirectional toggle switch and OK button.
2.1		Then a message is displayed.
2.2	◯	Acknowledge the information by pressing the OK button. This removes the device manually from the DuoFern Manual Control.
	or	
	⮌	Exit the dialogue using the back button without removing the device.
2.3		Then the list of devices is displayed again.

This function enables you to log off all DuoFern devices that are no longer available by radio from the DuoFern Manual Control.

1. ◯　　　　　Start clear-up mode.

　　　　　　　　The DuoFern Manual Control then tries to reach all the logged-on devices.

　　　　　　　　The unavailable devices are logged off and listed.

In this menu you can set the date and time and activate/deactivate the automatic summer / winter changeover.

i **18.2 Location & astro**

In this menu you can define the location of the DuoFern Manual Control.

i The settings made here are the basis for the dawn and dusk calculation.
Both dawn and dusk times are displayed for information purposes.

i **18.3 Language**

In this menu you can set the menu language of the DuoFern Manual Control.

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In this menu you can activate/deactivate the automatic button lock.

If the button lock is activated and no buttons are pressed over a longer period of time, the display turns off and the button lock is switched on automatically.

If a button is pressed when the button lock is active, a corresponding message appears on how to unlock the button by pressing and holding the OK button and the menu button.

> **i** The process of unlocking a button using the OK button and menu button is only temporary and does not deactivate the keyboard in general.

Symbol on the home screen when the button lock is activated

The activated button lock is displayed by the lock symbol on the home screen.

i **18.5 Display**

The display lighting and the "**Wake-up**" function can be activated or deactivated here.

Wake-up

If the function is activated, the display lighting is switched on automatically when you lift the manual control (waking up the manual control).

The display lighting turns off automatically again if no further entries are made after a short period of time.

This function can be used to completely reset the DuoFern Manual Control to the default factory settings again.

All previous settings and logged-on DuoFern devices are removed.

1.	◯	Activate the "**Reset**" option.
		Then a message is displayed.
1.1	◯	Reset the device to the default factory settings by pressing the OK button.
	or	
	⮌	Exit and do not execute the process.

ℹ **18.7 Software version**

The software version of the DuoFern Manual Control is displayed in this menu.

Please regularly check for the latest software version.

You can find the maintenance tool with the current software version in the service area of the RADEMACHER website at www.rademacher.de.

1. Start the application after the download and follow the instructions on the screen.

2. Connect the DuoFern Manual Control to the PC via the USB port.

> **ⓘ** Use only a USB data cable with a maximum length of 1.5 m to connect the DuoFern Manual Control.
> The DuoFern Manual Control must not be disconnected from the PC during the entire process.

3. The DuoFern Manual Control found is displayed. Click on it. Three options are displayed:

◆ **Creating a backup**

Here you can define the file name and then save the backup.

◆ **Firmware update**

First, a backup is created and then the firmware update starts automatically.

◆ **Restoring the backup**

Select and restore an existing backup file.

Only use the following battery type:

**3 x 1.5 V - type AAA (micro)**

⚠ ATTENTION!

Incorrect or leaking batteries can cause damage to the manual control.
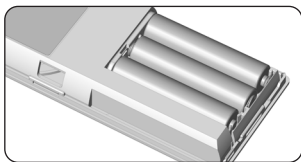
◆ Never use two different battery types.

◆ Never use new and old batteries together.

◆ Take the batteries out of the remote control if they are not used for a longer period of time.

◆ If a battery leaks, carefully wipe off the fluid in the battery compartment and insert new batteries.
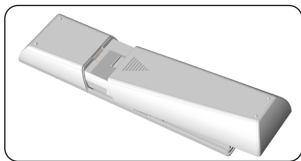
1. Remove the protective cover in the direction of the arrow.

2. Insert the three batteries into the battery compartment with the right polarity, as shown in the figure.

3. Re-fit the protective cover.

CE RADEMACHER Geräte-Elektronik GmbH, hereby declares that the DuoFern Manual Control complies with the Directive **2014/53/EU (Radio Equipment Directive)**.

The full text of the declaration of conformity is available at the following website:

www.rademacher.de/ce

RADEMACHER Geräte-Elektronik GmbH provides a 24-month warranty for new systems that have been installed in compliance with the installation instructions. All construction faults, material defects and manufacturing defects are covered by the warranty.

Your statutory warranty claims remain unaffected by this warranty.

The following are not covered by the warranty:
◆ Incorrect fitting or installation
◆ Non-observance of the installation and operating manual
◆ Improper operation or wear and tear
◆ External influences, such as impacts, knocks or weathering
◆ Repairs and modifications by third parties, unauthorised persons
◆ Use of unsuitable accessories
◆ Damage caused by unacceptable excess voltages (e.g. lightning)
◆ Operational malfunctions caused by radio frequency overlapping and other such radio interference

A prerequisite for the warranty is that the new device must have been purchased from one of our approved specialist retailers. Proof of this must be provided by presenting a copy of the invoice.

RADEMACHER will remedy any defects that occur within the warranty period free of charge either by repair or by replacement of the affected parts or by supplying a new replacement unit or one to the same value. There is no general extension of the original warranty period by delivery of a replacement or by repair as per the terms of the warranty.

* 30 seconds free of charge, subsequently
14 cents / minute from German fixed line
networks and max. 42 cents / minute from
German mobile networks.