

EN DuoFern Manual Control Instruction manual

Item no. 3445 00 60

Type: 9493-1



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describes how to use the DuoFern Manual Control.

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.

2. Hazard symbols

The following hazard symbols are used in this manual:



Danger area / dangerous situation

ATTENTION!

This hazard may lead to property damage.

2.2 Symbols and depictions used



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.

3. Safety instructions





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.

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.

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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.



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

3.2 Improper use



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.

SmartHome Box

 The SmartHome Box is a central control unit for RADEMACHER radio products. a)





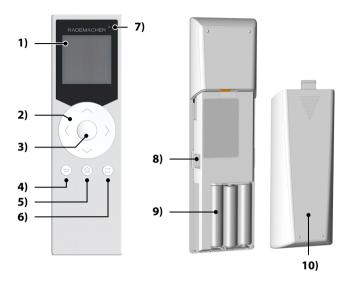
Included in delivery

- 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.

5. General view



- 1) Display
- 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	

8. Initial commissioning



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.

We 01-01-2020

Continue with logging on the DuoFern devices

No device registered

Press OK to log in

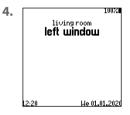
If no DuoFern devices have been logged on yet, the message shown opposite appears.



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

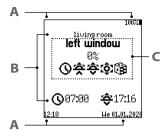
8. Initial commissioning

Switch the desired DuoFern devices to log-on mode.
Press the "Search devices" button.
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 27.



The home screen appears after the final setting, see example.

The DuoFern Manual Control is now ready for operation.



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



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.



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. (ô)	Use the multidirectional toggle switch to select a group or device.
3.	Confirm the selection with the OK button.

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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.



Ma	in menu	
Me		Dago
Aut	tomatic mode	17
Aut	tomation	18
>	Time	19
>	Astro	22
>	Random function	25
Set	ttings	26
>	Device *	27
>	Group	40
>	Radio	43
	Manual control	EC

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

Display on the home screen when automatic mode is deactivated MANU

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



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:

Automation living room > Same for every day Random function

Main menu > Automation

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.



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 25.

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 <u>Time</u> 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.



The automatic timer for the devices in the group are activated after confirming the

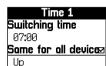
time. A status dialogue appears on the display that closes automatically if the transmission is completed successfully.

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

Configuring target statuses

6.

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



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.

Pay attention to the links between the switching times in time and ASTRO mode

To prevent the switching times in time and ASTRO mode from interfering with each other, the settings are blocked as follows:

Time mode		ASTRO mode
Set switching time:		The following option is blocked:
Time 1	Before 12:00 hours	Morning
Time 2	After12:00 hours	Evening

See also page 24.

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.								
									_	

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

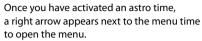


The automatic dawn and dusk function for the devices in the group is activated after confirming the astro time. A status dialogue appears on the display that closes automatically if the transmission is completed successfully.

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



Astro evening Switching time 17:16 Twilight today 17:16 Time delau

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

Earliest Lotest

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.

Pay attention to the links between the switching times in time and ASTRO mode

To prevent the switching times in time and ASTRO mode from interfering with each other, the settings are blocked as follows:

ASTRO mode	Time mode
Set ASTRO time:	The following switching time is blocked:
Morning	Time 1
Evening	Time 2

See also page 21.

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



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

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.

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l	ı	

Settings				
>	Device *			
	◆ Name			
	◆ Group(s)27			
	♦ Automatic functions			
	- Automatic solar function29			
	- Wind automation30			
	- Rain automation31			
	◆ Ventilation position32			
	♦ Intermediate position33			
	◆ Run time34			
	◆ Change of rotation direction / mode34			
	◆ Thresholds for the DuoFern Environmental Sensor35			
	◆ End points			
	♦ Remote log-on / off39			
	◆ Device reset			
	♦ Software version			
	* The available device menus are dependent on the device selected on the home screen and therefore vary.			



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

1. Open the menu:



Main menu > Settings > Device > Name

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

15.2 Group(s)

A tick symbol in the menu shows the groups in which the selected device is located.



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

The menu displays the status of the automatic device functions.

1. (Ô)

Select the desired automatic function using the multidirectional toggle switch.



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.

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



The run time for a DuoFern actuator (e.g. DuoFern Tubular Motor Actuator or RolloTube DuoFern Radio Tubular Motor) must be configured prior to setting the sunshine position, see page 34.



A sun sensor, such as the DuoFern Sun Sensor, DuoFern Environmental Sensor or DuoFern Sun/Wind Sensor, must be available to use the sun function.

1. Sun Automotic 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.



In the case of DuoFern end units with support for wind automatic function, the roller shutter moves in the set direction when the previously set wind threshold value is reached (see page 35).



A wind sensor, such as the DuoFern Environmental Sensor or DuoFern Sun/Wind Sensor, must be available to use the wind function.

1. Wind Automotic Movement direction Up

Activating the automatic wind function, as described on page 28, enables access to further setting options with the \(\rightarrow \text{key}. \)
In the "Wind automation" submenu, the state of the wind automatic function and the set "movement direction" are displayed.

2.

Select "Movement direction" and open using the OK button.

3.

Select and confirm the desired setting.

In the case of DuoFern end units with support for rain automatic function, the roller shutter moves in the set direction when the previously set rain threshold value is reached (see page 35).



A rain sensor, such as the DuoFern Environmental Sensor, must be available to use the rain function.

1. Roin
Automotic
Movement direction
Up

Activating the automatic rain function, as described on page 28, enables access to further setting options with the \(\rightarrow \text{key}. \)
In the "Rain automation" submenu, the state of the rain automatic function and the set "movement direction" are displayed.

2.

Select "Movement direction" and open using the OK button.

3.

Select and confirm the desired setting.

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.



The run time must be configured prior to setting the ventilation position, see page 34.

1. (Ô)

Select the desired function using the multidirectional toggle switch.



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 is only active if a dimmer has previously been selected as a device.

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

1. (Ô)

Select the desired function using the multidirectional toggle switch.



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.

15.7 Change of rotation direction / mode

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 (moves the roller shutter downwards and 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.



On and off commands remain unaffected by this.

You can use the DuoFern Manual Control in the DuoFern Environmental Sensor to configure the threshold values for sun, wind and rain.



With the DuoFern environmental sensor, the limit value group "A" is always configured. The complete range of functions of the environmental sensor can be used with the SmartHome Box.



Please note that after setting the threshold values and switching on the automatic functions in the DuoFern end unit, it must be connected to the DuoFern environmental sensor via the Remote login function.

Select the desired threshold and open using the OK button.

2.

Set the selected threshold value and confirm with the OK button.

Setting options:

- Set sun limit 1 kl ux to 99 kl ux
- Set wind limit 1 m/s to 31 m/s
- Rain ON/OFF





The final test serves to check the connection and the settings of the actuators, such as the sunshine position, wind movement direction and automatic functions.

1.	Open the " Test " menu.			
	Menu selection			
	Sun, wind, rain and ping			
2.	Start the respective test by pressing the "Up" button.			
3. 🗸	This button MUST be used to end the test.			



The actuator remains locked if the "Wind" test is not ended.



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



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	Ô	Reset the desired end position with the up / down buttons.

15.10 Remote log-on/off



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. For example, the DuoFern environment sensor can easily be connected to the individual DuoFern end units via radio.

desired mode og-off).
tive command is sent to med by the DuoFern device by ne OK button.
s are then in the lode for 2 minutes.
e prematurely terminated with function.

15.11 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.

15.12 Software version

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

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Se	ttings	26
>	Device	27
>	Group	40
	◆ Participants	41
	◆ Sorting	41
	◆ Name	42
	◆ Jog mode	42

16.1 Participants



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.



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.

16

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.



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

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.



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

17. Radio (logging DuoFern devices on / off)

Set	tings	26
>	Device	27
>	Group	40
>	Radio	43
	◆ Logging on devices	44
	◆ Logging off devices	47
	◆ Clear-up	49

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

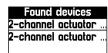
Search for devices

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	
	\bigcirc	Cancel the search.



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 27.



Devices that have accidentally not been assigned to a group can be assigned via the "**Groups > Participants**" menu (see page 41).

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.	(Ô)	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 27.

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

 Switch the desired DuoFern devices to log-off mode.



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

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	
	\bigcirc	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.

18. Setting the manual control

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18.1 Date & time



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

18.2 Location & astro

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



The settings made here are the basis for the dawn and dusk calculation.

Both dawn and dusk times are displayed for information purposes.

18.3 Language

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

18.4 Button lock



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.



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.

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18.5 Display

The display lighting and the "**Wake-up**" function can be activated or deactivated here. In addition, the desired "contrast" can be set.

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.

18.6 Reset



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	
	\bigcirc	Exit and do not execute the process.

18.7 Software version

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

19. Software update for the manual control



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.

- 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.

21. Simplified EU declaration of conformity





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

Warranty terms and conditions

Information on our warranty conditions is enclosed separately with this product.

RADEMACHER

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