

**EN DuoFern Radiator Actuator**  
Translation of the original Installation and Commissioning Manual

Item no. 3500 30 64



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...describes how to install, commission and operate the DuoFern Radiator Actuator.

### How to use this manual

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- ◆ Before you begin, please read this manual through completely and follow all the safety instructions.
- ◆ Please also read the instruction manuals for the logged-on DuoFern devices and the respective connected appliance.
- ◆ This manual is part of the product. Store the manual in an easily accessible place.
- ◆ When passing the DuoFern Radiator Actuator on to a third party, this manual must be passed on as well.
- ◆ Damage resulting from non-compliance with these instructions and safety instructions will void the warranty. We assume no liability for any consequential damage.



## 2. Hazard symbols



**Danger area / dangerous situation**



## 2.1 Symbols and depictions used

**Depiction**

**Description**



Further useful information



Please read the respective manual.



## 2.2 Glossary - definition

### **DuoFern**

- ◆ RADEMACHER radio system for controlling compatible products.

### **HomePilot®**

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



### 3. Included in delivery

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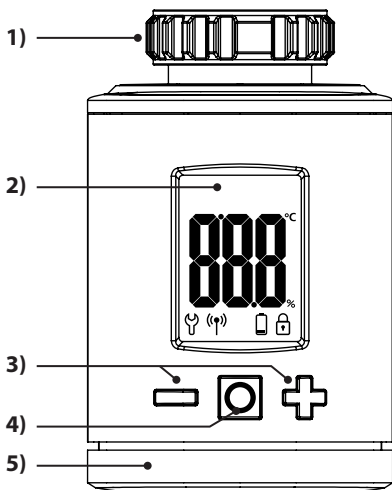
- 1 x radiator actuator
- 1 x cover
- 3 x Danfoss adapter (RA / RAV / RAVL)
- 1 x screw with nut
- 2 x AA batteries 1.5 V / LR6
- 1 x installation and commissioning manual

#### **After unpacking please check and compare...**






... the contents of the package with those specified above.



### 4. General view



- 1) Union nut
- 2) Display
- 3) Control buttons and navigation in the menu
- 4) Menu and set button
- 5) Battery compartment

| Symbol  | Description                                      |
|---|--|
|  | Target value / actual value or setting parameter |
|  | Menu / settings                                  |
|  | Automatic mode                                   |
|  | Low battery                                      |
|  | Child protection function / operating lock       |

## 5. Product description

The DuoFern Radiator Actuator is an electronic radiator thermostat for controlling a radiator valve and for regulating the room temperature.

The operation and setting of the DuoFern Radiator Actuator can be performed on site directly on the device, via a smartphone app or with a computer.

The RADEMACHER HomePilot® is also required as a central controller (not included in delivery) for control via an app or computer.

| <b>General information</b>         |  |
|------------------------------------|--|
| Supply voltage:                    | 2 x 1.5 V (DC), AA, alkaline   |
| Battery life:                      | approx. 2 years (with three switching times daily and a set transmission interval of 15 minutes) |
| Mechanical loading capacity:       | 70 N   |
| Linear stroke:                     | 2 - 3 mm   |
| Connection thread:                 | M 30 x 1.5 mm  |
| Permissible ambient temperature:   | 0 to 40°C  |
| Frost protection temperature:      | 4 °C   |
| Automatic limescale protection:    | once a week  |
| Protection class:                  | IP20 (only for use in dry rooms)   |
| Dimensions (W x H x D):            | 56 x 68 x 89 mm  |
| Weight (incl. battery):            | 176 g  |
| <b>DuoFern radio technology</b>    |  |
| Transmission frequency:            | 434.5 MHz  |
| Transmission power:                | max. 10 mW   |
| Maximum number of DuoFern devices: | 1 x HomePilot®   |





**The use of defective devices and improper use can lead to property damage.**

- ◆ Never use defective or damaged devices.
- ◆ Check the DuoFern Radiator Actuator for damage.
- ◆ Consult our customer service department in the event that you discover damage, see page 28.
- ◆ Train all persons to use the DuoFern Radiator Actuator safely.
- ◆ Children must not play with the device.

### 7.1 Intended use

Only use the DuoFern Radiator Actuator for controlling a heating valve.

#### Operating conditions

- ◆ Only use the DuoFern Radiator Actuator 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.



## 8. Initial commissioning

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### 8.1 Insert the enclosed batteries



**The use of rechargeable batteries or incorrect batteries can damage the DuoFern Radiator Actuator.**

- ◆ Only use leak-proof 1.5 V AA batteries (LR6).
- ◆ If a battery has leaked, we recommend replacing the DuoFern Radiator Actuator with a new device.
- ◆ Pay attention to the correct polarity when inserting the batteries.



2 x AA 1.5 V (LR6)

Registering mode is then active.



If the radiator actuator is already connected to the HomePilot®, registering mode is bypassed and the drive moves automatically to the installation position, see page 11.

If no login is to take place, continue with **8.3**.

1.



Switch the HomePilot® to registering mode. Login takes place automatically.

2.



The logged-on HomePilot® appears as “1” on the display after a successful login.

If no login takes place within 2 minutes, “0” appears on the display.



The DuoFern Radiator Actuator must be installed immediately after logging on to the HomePilot®. Otherwise, “ready for operation” (yellow triangle) is displayed in the HomePilot®.

## 8.3 Activating installation mode (POS)

1.



**Activate installation mode by briefly pressing the button.**



The drive then moves to the installation position (**POS**). The display flashes as soon as the installation position is reached.



If the device was already logged on to the HomePilot® before inserting the batteries, installation mode is directly activated.

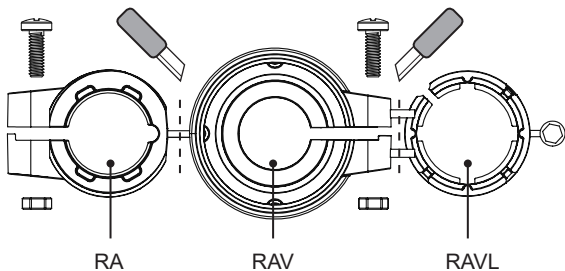
1. Attach the DuoFern Radiator Actuator to the valve or the adapter and tighten the union nut.



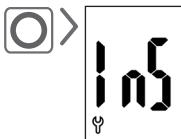
The DuoFern Radiator Actuator has minimal flexibility after the installation in order to be able to optimise the view on the display. You should therefore not overtighten the union nut.



You can use one of the enclosed adapters for mounting on Danfoss radiator valves.



1.



Activate installation mode (**InS**) by briefly pressing the menu button.

The drive then automatically performs an installation run to define the end positions.

2.



The normal display appears with the set target temperature after a successful installation run.

The DuoFern Radiator Actuator is now ready for operation.

The display switches off automatically to save energy.

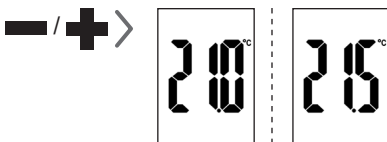


Pressing any button switches on the display again and switches the DuoFern Radiator Actuator to operating mode.



The normal display then appears with the set target temperature.

## 9.1 Setting the target temperature



You can adjust the desired target temperature in 0.5 °C steps by briefly pressing the button.

Pressing and holding a button causes the numbers to progress quickly.

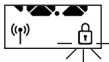


The room temperature measured by the DuoFern Radiator Actuator may vary from the perceived temperature depending on the installation location.

First activate the normal display by pressing any button, see page 14.

### Activating the child protection function

---



Press briefly 1 x,

until the lock symbol flashes. Manual operation is still possible.

After the display goes off and is re-activated, the lock symbol is displayed continuously and the device cannot be operated.

### Switching off the active child protection function for a short time

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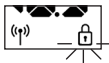


Press briefly 1 x,

until the lock symbol flashes. The child protection function switches off for a short time to enable the device to be operated.

### Deactivating the child protection function

---



Press briefly 1 x,

until the lock symbol flashes.

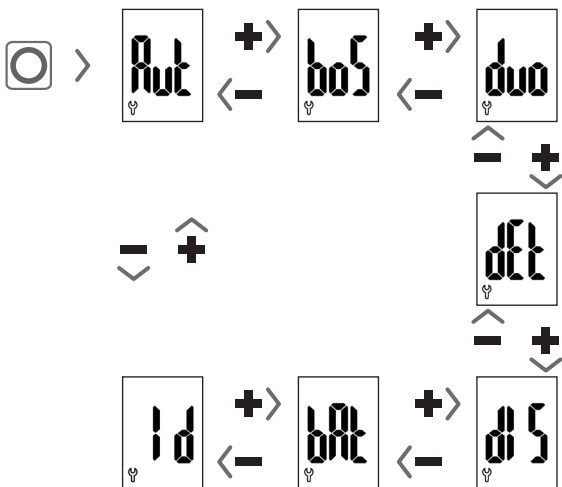
Briefly release and press 1 x again at the same time,



until the lock symbol disappears.

Different settings can be made and functions can be activated (**On**) or deactivated (**OFF**) in the DuoFern Radiator Actuator menu.

### Navigation in the menu



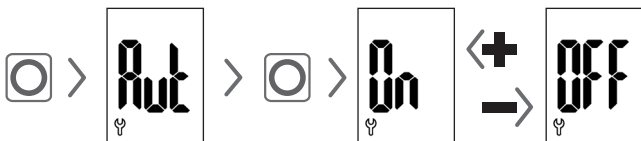
### Setting parameters, see next chapter

The settings are saved by pressing the menu button.

### Return to the normal view

- ◆ Automatically after approx. 10 seconds without any input.
- ◆ By pressing and holding the menu button.



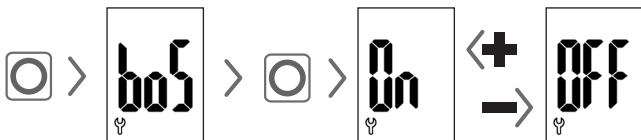


### Automatic mode On (factory setting)

All control commands are permitted from a HomePilot®.

### Automatic mode OFF = manual mode

Only on-site changes or manual changes are implemented by the HomePilot®.



The boost function enables the room to be heated for a short time and is automatically deactivated after 15 minutes.

You can activate the boost process in the normal display with **+** or **-**.



The boost process cannot be started if “Window open” has been detected by the internal window open detection (see page 20). Incoming automatic control commands are executed at the end of the process.

You can log the HomePilot® onto the DuoFern Radiator Actuator in this menu (**duo**).



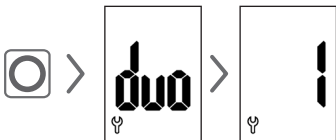
You can log on a maximum of one HomePilot®.



Please also read the instruction manual for the HomePilot®.

### Logging on to / logging off the HomePilot®

1.



Open the DuoFern menu (**duo**) in the radiator actuator.

A logged-on device is displayed, if available.

- 
2. Switch the HomePilot® to registering or log-off mode as required.
- 
3. Activate the desired function on the DuoFern Radiator Actuator, see next page.

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 **Logging on to the HomePilot®**

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**LED signals when logging on**

- ◆ Flashes green: during the login
- ◆ Lights up green for 2 seconds: after a successful login
- ◆ Lights up red for 2 seconds: if the login has not taken place within 2 minutes or an error has occurred

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 **Logging off the HomePilot®**

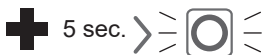
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**LED signals when logging off**

- ◆ Flashes red: during the login
- ◆ Lights up green for 2 seconds: after a successful log-off
- ◆ Lights up red for 2 seconds: if the logout has not taken place within 2 minutes or an error has occurred



You can cancel the login or log-off at any time by pressing **+** or **-**.



**Clearing the DuoFern Radiator Actuator**

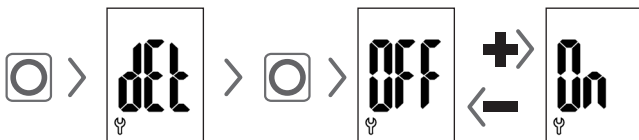
The radio connection to a HomePilot® that can no longer be accessed is deleted.



#### LED signals during the clearing process

- ◆ Flashes red: during the clearing process
- ◆ Lights up green for 2 seconds: after completing the clearing process

### 10.4 Internal window open detection (dEt)



#### Factory setting = OFF

If the internal window open detection is active, the drive regulates to the frost protection temperature for 15 minutes if a drop in temperature is detected. Once this time has elapsed, the drive attempts to regulate back to the previous target temperature.

Window open detection takes place irrespective of whether the DuoFern Radiator Actuator is in manual or automatic mode.



If an open window is detected, this message (**OPn**) appears for the duration of the process.



Alternatively, you can also use an external DuoFern window/door contact (Item no. 3200 31 64) for control purposes via the HomePilot® in case of an unfavourable installation position (e.g. in a niche).



## 10.5 External window open detection



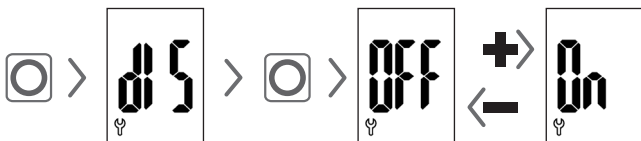
If an open window is detected by an external DuoFern window/door contact, this message (**OPn**) appears for the duration of the process.

You can cancel the message and switch the DuoFern Radiator Actuator back to normal mode by pressing **+** or **-**.



## 10.6 Rotating the information on the display (dIS) (180°)

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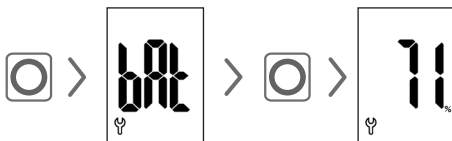


**Factory setting = OFF**

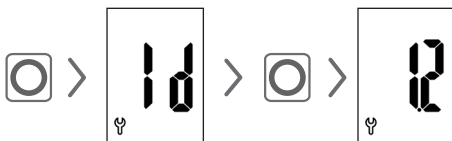
It may be beneficial to rotate the information shown on the display through 180° depending on the installation. The display is rotated only after confirming with the menu button, see page 16.



## 10.7 Viewing the battery charge level (bAt)







## 10.8 Viewing the current software version (Id)



## 11. Deleting all settings and resetting to the factory settings

1. First activate the normal display by pressing any button, see page 14.
2. Deactivate the child protection function if it is active, see page 15.

3.  Press and hold, additionally  
 +  press and hold.  
Be sure to follow the specified sequence.

4.  Release the buttons when the text on the display appears.

5.  Confirm the reset by pressing the button.

6. The DuoFern Radiator Actuator restarts with the factory settings, see page 10 “Initial commissioning”.



If no confirmation is made after pressing the menu button, the menu is automatically closed after 10 seconds and no reset is performed.

Errors that have occurred are shown on the display with an error code.

### **E1 = The drive is not installed**

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- ◆ Install the DuoFern Radiator Actuator at a suitable place.

### **E2 = Error in the mechanics**

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*An error has been detected during the installation run.*

- ◆ Repeat the installation run.

### **E3 = Installation run too short**

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- ◆ Check the installation position of the DuoFern Radiator Actuator.
- ◆ Adjust the installation with an adapter if necessary.
- ◆ Replace a defective device.

### **E4 = Error in the DuoFern network**

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*The logged-on HomePilot® is no longer accessible via radio.*

- ◆ Ensure that there is no disruptive radio source nearby.
- ◆ Ensure that the DuoFern Radiator Actuator is in the radio range of the HomePilot®.



#### **Information about E1 - E3**

You can start a new installation run by reinserting the batteries, see page 10.





## 13. Cleaning / maintenance

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**Chemical solvents may damage the DuoFern Radiator Actuator.**

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- ◆ Use only a soft, slightly damp cloth to clean the device.



## 14. Simplified EU declaration of conformity

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RADEMACHER Geräte-Elektronik GmbH, hereby declares that the DuoFern Radiator Actuator 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](http://www.rademacher.de/ce)

**Removal of the batteries prior to the final disposal**

The batteries must be removed again prior to disposal

**Disposal of used batteries**

Batteries may not be disposed of in domestic waste and must be disposed of separately.

RADEMACHER Geräte-Elektronik GmbH provides a 24-month warranty for new devices 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 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.

**RADEMACHER**

Geräte-Elektronik GmbH  
Buschkamp 7  
46414 Rhede (Germany)  
info@rademacher.de  
www.rademacher.de

**Service:**

Hotline 01807 933-171\*  
Fax +49 2872 933-253  
service@rademacher.de

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14 cents / minute from German fixed line  
networks and max. 42 cents / minute from  
German cellular networks.