



...with your purchase of this **DuoFern Connect actuator**, you have decided for a quality product manufactured by RADEMACHER. We would like to thank you for your confidence.

This product has been designed in an effort to the greatest possible ease of operation. With uncompromising quality requirements, after extensive test series, we are proud to present this innovative product to you.

All of our highly qualified staff at RADEMACHER stand behind this product.



These instructions...

...describe how to install, connect and operate the **DuoFern Connect actuator**.



Before you begin work, please read these instructions all the way through and follow all of the safety instructions. Please save these instructions and give them to any future owners.

For damage resulting from noncompliance with these instructions and safety instructions, the guarantee is void. We assume no liability for any consequent damage.

i	Dear Customers...	26
i	These instructions...	26
1.	Key to Symbols.....	28
2.	General safety instructions.....	29
3.	Correct usage.....	30
4.	Incorrect use	30
5.	General view	31
6.	Brief description.....	32
7.	Functional characteristics	33
8.	Description of the configurable parameters.....	35
9.	Installation / Dismantling.....	38
	9.1 Installation.....	38
	9.2 Dismantling.....	38
10.	Electrical connection - Safety instructions.....	39
	10.1 Electrical connection	40
	10.2 Wiring diagram	41
11.	Logging DuoFern transmitters on/off	42
12.	Logging on and off per radio code.....	43
13.	Erase data (reset)	44
14.	Technical data.....	45
15.	CE mark and EC conformity.....	45
16.	Accessories	46
17.	Warranty conditions.....	47
18.	SET Magnet.....	47

**Danger of fatal electric shock.**

This sign warns of danger when working on electrical connections, components etc. It requires that safety precautions be taken to protect the health and life of the person concerned.

**This concerns your safety.**

Please pay particular attention to and carefully follow all instructions with this symbol.

NOTE/IMPORTANT/ATTENTION

This is to draw your attention to information which works is important to ensure trouble-free operation.



Please read the operating instructions for an external device described at this point, (e. g. a tubular motor).



All work performed on electrical equipment is associated with a risk of electric shock and electrocution.

- ◆ The electrical connection and all work on electrical systems must only be carried out by a qualified electrician (see chapter 10. - 10.2).
- ◆ Carry out all installation and connection work only in an isolated, deenergised state.



The use of defective equipment can lead to personal injury and damage to property (electric shocks, short circuiting).

- ◆ Never use defective or damaged equipment.
- ◆ Check that the DuoFern Connect actuator is intact.
- ◆ Please contact our Customer Service department (see page 48) in the event of faults or damage to the actuator.

Only use the DuoFern Connect actuator for the control of:

- ◆ Roller shutters and Sun shading systems
- ◆ Blinds and external Venetian blinds

Operating conditions

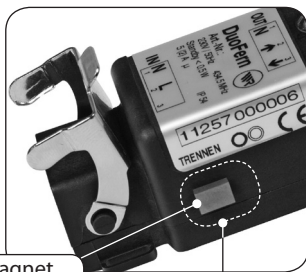
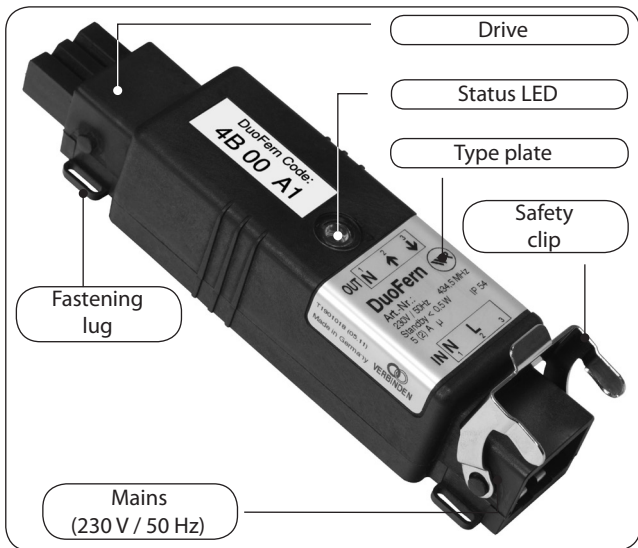
- ◆ The installation and operation of the DuoFern radio system and its components is only permitted for those systems and devices where a malfunction in the transmitter or receiver would not cause a danger to persons or property or where this risk is already covered by other safety equipment.
- ◆ For the electrical connection a 230 V / 50 Hz power supply, together with a site-provided isolating device (fuse), must be available at the installation site.

IMPORTANT

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



Never use the DuoFern radio system and its components (e. g. DuoFern Connect actuator) for remote control of devices and systems with heightened safety-relevant requirements or a heightened risk of accident. Such use would require additional safety equipment. Observe the respective statutory regulations for the installation of such systems.



Connect surface /

Disconnect surface /

NOTE

Log on/off to/from DuoFern transmitters, s. page 42.

The DuoFern Connect actuator can be used to equip drives for blinds, external Venetian blinds and roller shutters with DuoFern radio technology.

As soon as you integrate your DuoFern Connect actuator into a DuoFern radio network, you can make use of many functions offered by the corresponding DuoFern controllers in combination with the connected drive.

The DuoFern actuators and transmitters must be connected to the DuoFern network.

In order to make use of the corresponding controllers (e.g. DuoFern manual transmitter Standard), you must first connect the DuoFern Connect actuator with the DuoFern network. Use the enclosed **SET magnet** to switch the actuator to **connect and disconnect mode** (see page 42).

NOTE

A detailed description of the various functions, settings and possible combinations for DuoFern systems can be obtained under: **<http://www.rademacher.de/duofern>**.

DuoFern HomePilot									
DuoFern environmental sensor									
DuoFern manual central operating unit									
* WR ConfigTool with DuoFern manual central operating unit									
RolloTron Comfort DuoFern / Troll Comfort DuoFern									
DuoFern Standard manual transmitter									
DuoFern Wall controller									
Function	Value-range	Factory-setting							
1. Manual control	Up / Stop / Down	-	●	●	●		●		●
2. Direct drive to a %-Position	0 % - 100 %	-							●
3. Manual operation on / off	on / off	off					●	●	●
4. Timer on / off	on / off	on					●	●	●
5. Random function	-	-						●	●
6. Automatic dawn function	-	-			●			●	●
7. Automatic dawn function on / off	on / off	off					●	●	●
8. Automatic dusk function	-	-			●			●	●
9. Automatic dusk function on / off	on / off	off					●	●	●
10. Solar program	-	-			●				●
11. Automatic solar function on / off	on / off	off					●	●	●
12. Sun position	0 % -100 %	50 %					●	●	●
13. Wind program	-	-							●
14. Automatic wind function on / off	on / off	off					●	●	●
15. Direction of rotation for wind	Up / Down	Up					●	●	●
16. Rain program	-	-							●
17. Automatic rain function on / off	on / off	off					●	●	●
18. Direction of rotation for rain	Up / Down	Up					●	●	●
19. Runtime	2 s – 150 s	150 s					●	●	●
20. Ventilationposition function on / off	on / off	off					●	●	●
21. Ventilationposition	1 % - 99 %	80 %					●	●	●
22. Direction reversal	on / off	off	●	●			●	●	●
23. Connection test	-	-							●
24. Connecting via radio code	-	-					●	●	●

DuoFern HomePilot									
DuoFern environmental sensor									
DuoFern manual central operating unit									
* WR ConfigTool with DuoFern manual central operating unit									
RolloTron Comfort DuoFern / Troll Comfort DuoFern									
DuoFern Standard manual transmitter									
DuoFern Wall controller									
Function	Value-range	Factory-setting							
25. Reset via radio (3-stage)	-	-					●		●
26. Single-button operation	-	-							
27. Jog-Mode	-	-	●					●	
28. Blinds mode	on / off	off					●	●	●
29. Standard slat position **	0-100%	0%					●		●
30. Auto tilt after manual Stop direction "Down" **	on / off	on					●		●
31. Auto tilt to Sun position **	on / off	off					●		●
32. Auto tilt to ventilation position **	on / off	off					●		●
33. Auto tilt after moving to a %-Position **	on / off	on					●		●
34. Slat run time **	100 ms - 5000 ms	900 ms					●		●
35. Motor reaction time	0 ms / 160 ms / 480 ms	0 ms (off)					●		●

* The „WR ConfigTool“ software can be downloaded from our website at www.rademacher.de

** Not available if „blinds mode“ is activated.

The most important configurable parameters are described here for carrying out the basic configuration (installation) of the actuator.

Running time:

This sets the time which the drive requires for a complete lift of the shutters. In order to record the time, please move the shutters down to the lower limit position and then move them to the upper limit position. Record the time as precisely as possible during the lifting process. Add 1 to 2 seconds to the measured duration in order to allow for deviations in the running time caused by temperature changes. Configuration of the running time is required to enable targeted movement to a specified position (e.g. using the HomePilot). The more precisely the time is recorded, the more accurately the desired intermediate position (e.g. sun position) will be assumed.

Blinds mode:

If this mode is active, the automatic slat tilting functions are available. This mode should be deactivated for use with roller shutters and awnings.

Standard slat position ***

This parameter sets the position in which the slats are to be turned after automatic tilting (0% = open (tilted in the „up“ position), 100% = closed (tilted in the „down“ position)).

Automatic tilt after manual stop direction „Down“:

If this parameter is activated, the slats will be automatically tilted to the „down“ position after manually stopping and will be shifted to the default slat position.

Automatic tilting in sun and ventilation positions:

If the respective parameter is activated, the slats will be automatically tilted after moving to the corresponding sun or ventilation position and will be shifted to the default slat position. This function can be configured separately for the corresponding sun and ventilation position.

Automatic tilt after moving to a %-position:

If this parameter is activated, the slats will be tilted automatically and shifted to the default slat position after moving to a specific %-position (e.g. with the HomePilot).

Slat run time:

The run time must be recorded and configured for a complete slat movement. This is necessary in order to be able to correctly move to a desired slat position from any other position.

In order to record this position, move the blinds / external Venetian blinds to the central position (with blinds mode switched off). Then start the motor in the "up" position and record the time required until the shutter starts to lift. The possible adjustment range is 100 ms - 5000 ms (0.1 s - 5 s).

Motor reaction time (dead time)

Here you can set the time required by the motor after switching on before it starts up. In order to do so, observe the motor type and specifications given by the respective motor manufacturer.

For motors with mechanical end point settings, the reaction time is extremely short – in this case the “off” setting (0 ms) is recommended.

For motors with electronic end point setting (so called “electronic motors”), the reaction time of the motor can have a significant influence on its accuracy when moving to specific slat positions.

If an “electronic motor” is used, the reaction time should be ascertained by trial and error or by the motor manufacturer. For electronic motors, a setting of “160 ms” is recommended, however, some electronic motors may require a setting of “480 ms”.

If precise reaction times are available for the motor, then this can be custom set (individual reaction time).



The DuoFern Connect actuator is intended for surface-mounting.

ATTENTION

In order to ensure optimal operation, the DuoFern Connect actuator should not be installed on a metallic base or near metal objects.



9.1 Installation

1. **Switch off the mains.**
2. **Connect DuoFern Connect actuator in accordance with chapter 10. - 10.2.**
3. **Mount the DuoFern Connect actuator.**
4. **Reconnect the mains power.**
5. **Register the DuoFern Connect actuator in the DuoFern radio network, see chapter 11.**



9.2 Dismantling

1. **Log off the DuoFern Connect actuator from the DuoFern radio network, see chapter 11.**
2. **Switch off the mains.**
3. **Disconnect and demount the DuoFern Connect actuator.**
4. **Prepare the system for operation and switch the power back on.**

**There is a risk of fatal electric shocks.**

- ◆ The electrical connection and all work on electrical systems must only be carried out by a qualified electrician in accordance with the connection instructions in these operating instructions.
- ◆ Carry out all installation and connection work only in an isolated, deenergised state.
- ◆ Disconnect all phases of the mains power supply cable and secure it to prevent re-connection.
- ◆ Check that the system is dead.
- ◆ Prior to connecting, compare the information about voltage/frequency on the device with those of the local electrical grid operator.
- ◆ Incorrect wiring may lead to short-circuits and destruction of the device.
- ◆ Observe the sequence of connector pin assignments in the wiring diagram on page 41 and on the type plate.

1. **Switch off the mains power and secure it to prevent any reactivation.**
2. **Connect the wires in accordance with the specifications given on the type plate and in accordance with the wiring diagram on page 41.**



Unintentional removal of the connecting cable during operation of the equipment can lead to life-threatening situations due to electric shocks or short circuits.

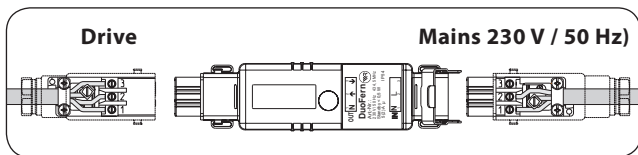
Secure both connecting cables against removal with the help of the tension relief mechanism.

3. **Connect the plug and coupling for both connecting leads with the DuoFern Connect actuator.**
4. **Switch the mains power back on and check that the system is working correctly.**

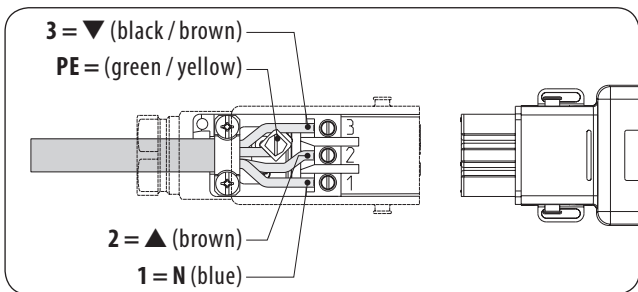


Removing the plug or coupling during operation of the equipment can damage the drive or the DuoFern radio Connect actuator.

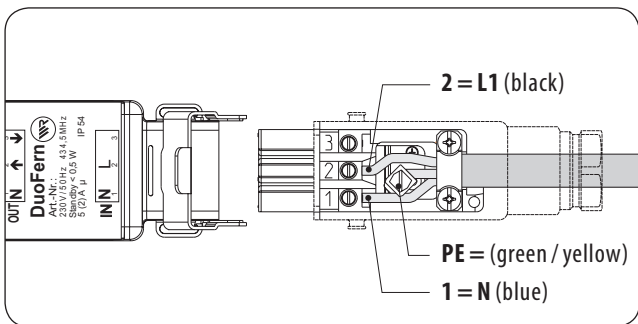
Always secure the plug and coupling by engaging the corresponding safety clip. The safety clips must fully engage.



Drive



Mains (230 V / 50 Hz)



You must assign **every** required DuoFern transmitter to the DuoFern Connect actuator in order that the actuator can be controlled with a DuoFern transmitter. You can assign max. 20 DuoFern transmitters (e. g. RolloTron Pro Comfort DuoFern) to the actuator. Additional informations about logging on can be obtained from the log-on matrix on our website under **www.rademacher.de**.

1. Use the supplied SET magnets (see page 47) to touch either the "Connect (log-on)" or "Disconnect (log-off)" areas on the actuator.

2. The status LED flashes green, the drive starts up briefly and a corresponding signal is given.

NOTE:

Log-on/off mode remains active for 60 seconds.

3. Switch the desired Duo Fern transmitter to "Connect" mode (log-on) or "Disconnect" mode (log-off) - (please refer to the corresponding operating instructions).



Connect (log-on)



Disconnect (log-off)



SET Magnet (see page 47)

4. If log-on/log-off is successful, the status LED will light up green and the drive starts up briefly by way of confirmation.
5. Register the next DuoFern transmitter. In order to do so, repeat steps 1 to 3, or else terminate registration.

NOTE

The status LED lights up red if the registration process fails, for example if:

- ◆ 20 DuoFern transmitters have already been registered.
- ◆ an attempt is made to register an unsuitable device (e. g. other DuoFern actuator).
- ◆ an attempt is made to log-off a DuoFern transmitter that is not logged-on.

12. Logging on and off per radio code

You can control the DuoFern Connect actuator directly using the radio code in order, for example, to be able to connect further DuoFern transmitters to the actuator after installation. The radio code is provided from factory in the form of a label attached to the actuator.

NOTE

A corresponding transmitter is required (e.g. DuoFern manual central operating unit, item no. 3481 00 60 or HomePilot, item no. 3400 08 19) in order to use the radio code.



A more detailed description of the login/log-off process via the radio code can be found in the respective operating instructions for both devices.

The radio code is only active for 120 minutes after switching on the power supply. For this reason, it may be necessary to briefly interrupt the power supply, in order to be able to use the radio code.



- 1. Hold the SET magnets provided against the “Disconnect” surface until the status LED lights up continuously red.**
- 2. All settings will be erased and reset to the default factory setting.**
- 3. All of the registered DuoFern transmitters are automatically logged-off.**
- 4. Subsequently, the DuoFern Connect actuator will be reset to its original supplied state.**



14. Technical data

EN

Supply voltage:	230 V / 50 Hz
Standby consumption:	< 0,5 W
Switching load:	max. 5 A ohmic load max. 2 A inductive load
Output:	1 x tubular motor
Range:	
- in a building:	approx. 30 m (depending on construction)
- outside:	approx. 100 m
Transmission frequency:	434,5 MHz
Maximum number:	
- DuoFern transmitters:	20
Permissible ambient temperature:	- 25 °C to + 55°C
Protection type:	IP54
Dimensions:	123,5 x 33,5 x 26,5 mm (L x W x H)



15. CE Mark and EC Conformity

The present product complies with the requirements of the current European and national directives.

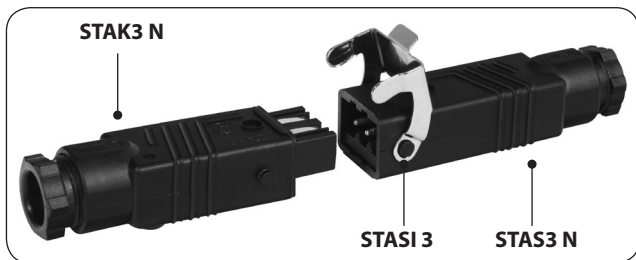


1999/5/EC R&TTE directive

Conformity has been verified. The corresponding declarations and documentation are available on file at the manufacturer's premises.

RADEMACHER Geräte-Elektronik GmbH&Co. KG
Buschkamp 7
46414 Rhede

Plug-ans socket connections (IP54, max 16 A)



	colour	item no.
Coupling STAK3 N:	(black)	7000 00 83
Plug STAS3 N, incl. safety clip	(black)	7000 00 84
Safety clip STASI 3	---	7000 00 85

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.

The following are not covered by the warranty:

- ◆ Incorrect fitting or installation
- ◆ Non-observance of the installation and operating instructions
- ◆ Improper operation or wear and tear
- ◆ External influences, such as impacts, knocks or weathering
- ◆ Repairs and modifications by third party, unauthorised persons
- ◆ Use of unsuitable accessories
- ◆ Damage caused by unacceptable excess voltage (e. g. lightning)
- ◆ Operational malfunctions caused by radio frequency overlaps and other such radio interference

RADEMACHER shall remedy any defects, which occur within the warranty period free of charge either by repair or by replacement of the affected parts or by supply of 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.

Magnet

RADEMACHER

Geräte-Elektronik GmbH & Co. KG

Buschkamp 7

46414 Rhede (Germany)

info@rademacher.de

www.rademacher.de

Service:

Hotline 01807 933-171*

Telefax +49 2872 933-253

service@rademacher.de

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