

EN

RolloTube S-line Zip DuoFern Tubular Motors

Translation of the original operating and assembly manual

Applicable for the following series: RolloTube S-line Zip DuoFern Small (SLDZS) / Medium (SLDZM)

Item numbers: 2550 06 85 / 2550 10 85 / 2578 10 85 / 2578 20 85 / 2578 30 85 / 2578 40 85 / 2578 50 85



Please note:

Site of installation:

.....

Serial number:

.....

Please stick the enclosed label showing the DuoFern radio code here:

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- ◆ ...serves to describe the installation, electrical connection and operation of RADEMACHER tubular motors in the RolloTube S-line Zip DuoFern Small and Medium series.
- ◆ Before you begin, please read this manual through completely and follow all the safety instructions and assembly instructions.
- ◆ This manual forms a component of the product. Please store the manual in an easily accessible place.

- ◆ When passing the tubular motor on to any future owners, this manual must be passed on as well.
- ◆ Damage resulting from non-compliance with this manual and the safety instructions will void the guarantee and the warranty. We assume no liability for any consequential damage.

2. Hazard symbols

The following hazard symbols are used in this manual:



Risk of fatal electric shock



Danger area / dangerous situation

2.1 Levels of danger and signal words



DANGER!

This hazard will lead to serious injury or death if not avoided.



WARNING!

This hazard may result in serious injury or death if not avoided.



CAUTION!

This hazard may result in minor or moderate injury if not avoided.



ATTENTION!

This hazard may lead to property damage.

2.2 Symbols and depictions used

Depiction / description

1. Steps to be taken
- 2.

- ◆ Itemisation

- (1) List



Installation chapter



Chapter with settings and button operation



Further useful information



Please read the respective manual



Unauthorised handling or configuration



3. Safety instructions



Risk of fatal electric shock when touching electrical components.

- ◆ The electrical connection for the tubular motor and all work on the electrical systems may only be undertaken by an authorised qualified electrician and in accordance with the connection diagrams in these instructions, see page 19 to 21.
- ◆ Carry out all installation and connection work only in an isolated, de-energised state.



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

- ◆ Never use defective or damaged devices.
- ◆ Check the drive and mains cable beforehand for damage.
- ◆ Should you discover damage to the device, please consult our customer service department.



There is also a risk of fatal injury from crushing resulting from uncontrolled starting of the drive.

- ◆ Never attempt to manually stop the screen in the event of uncontrolled movement.
- ◆ In such cases, switch off all power to the drive and take appropriate safety precautions to prevent unintentional switching on.
- ◆ Arrange to have the system checked by a skilled electrician.



Exceeding the maximum permissible running time (KB = transient operation) may overload the tubular motor.

- ◆ The maximum permissible running time for a run may not be exceeded when the equipment is in operation. For this reason, the tubular motor has a running time limit (KB = transient operation) of four minutes.
- ◆ If the running time limit is triggered, then the tubular motor must be left for at least 20 minutes to cool down.



Fatal danger in the event of operation without configured end points.

- ◆ The end points must be set in order to ensure safe operation. Read the information in chapters 9. and 10. from page 23.



Incorrect use leads to an increased risk of injury.

- ◆ Train all people to safely use the tubular motor.
- ◆ Do not allow children to play with fixed controllers and keep remote controls away from children.
- ◆ Cleaning and user maintenance may not be carried out by children without supervision.

For Zip systems that can be operated out of sight of the operator:

- ◆ The Zip system may not be operated if work is being carried out nearby (e.g. windows being cleaned).

For automatically operated Zip systems:

- ◆ Disconnect the Zip system from the power supply if work is being carried out nearby or cleaning work is being performed on the system.



A lack of maintenance can lead to personal injury through damage to your tubular motor and the Zip system:

- ◆ Check regularly that the Zip system is functioning correctly.
- ◆ Check the Zip system regularly for poor balance or damaged lines.
- ◆ Arrange for damaged Zip systems or components to be repaired or replaced by a specialist company.



Contact with the drive housing can cause burns.

- ◆ The tubular motor gets hot during operation. Allow the motor to cool down prior to undertaking any further work on the motor.
- ◆ Never touch the hot drive housing.

Only use the tubular motors for the electrical operation (raising and lowering) of screens in Zip systems.



The use of the wrong tubular motors or components can lead to property damage.



- ◆ When used outdoors, the motor cable must be fitted with a suitable empty tube up to the respective junction box taking account of the local electrical regulations.
- ◆ Only use the manufacturer's original parts and accessories.
- ◆ Only use tubular motors which correspond to the local conditions in terms of their power. Incorrectly dimensioned tubular motors can lead to damage:
 - > An under-dimensioned tubular motor can be damaged by overloading or may result in the screen not raising.
 - > An over-dimensioned tubular motor may not switch off with the necessary sensitivity in the case of a blockage and damage the screen or mechanism.
- ◆ Consult a specialist retailer when selecting a tubular motor and observe the corresponding tractive force specifications on our website: **www.rademacher.de**

Operating conditions

- ◆ A 230 V / 50 Hz power supply, together with a site-provided isolating device (fuse), must be permanently available for the electrical connection at the installation location.
- ◆ The mechanism must run up and down easily and should not jam.
- ◆ Installation and operation of the RolloTube S-line Zip DuoFern is only permitted for those systems and devices where a malfunction in the transmitter or receiver would not cause a danger to personnel or property or where this risk is already covered by other safety equipment.



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

Operating conditions for self-learning mode

- ◆ The screen requires a fixed end stop when raised in order to be able to learn the end point.

Using the RolloTube S-line Zip DuoFern for purposes other than previously mentioned is impermissible.



Never use the tubular motor in continuous operation. Doing so will cause serious damage.



Never use the DuoFern radio system and its components for the remote control of appliances and systems with increased safety-relevant requirements or where there is an accident risk.

- ◆ Applications of this kind require additional safety equipment. Observe the respective statutory regulations for the installation of such systems.

The installation, electrical connection and maintenance must be carried out by a qualified person with appropriate training or by a specialist company in accordance with the instructions in this manual.

Blockage detection / obstacle detection

Tubular motor safety features.

In the event of a blockage or if an obstacle is encountered, the tubular motor stops and automatically travels briefly in the opposite direction.

DIN EN 13659

"Shutters and external Venetian blinds - Performance requirements including safety."

This standard determines the performance requirements that externally attached shutters and blinds must fulfil. It also contains significant hazards with regard to the design, transportation, installation, operation and maintenance of these shutters and blinds.

DIN VDE 0100, Part 701 and 702

"Erection of low voltage installations - Part 7-701 and 7-702"

This standard defines the requirements for special installations or locations, rooms with a bath or shower / basin etc.

Torque monitoring

The torque monitoring protects the screen and the complete system from being destroyed and people from being injured. It is also used to find the end points, amongst other things.

DuoFern

RADEMACHER radio technology for controlling compatible products.

End points

An end point is defined and set for each direction of travel of the screen. Once this point has been reached, the tubular motor switches off and the screen stops.

SmartHome Box

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

Transient operation (KB)

Tubular motors are not designed for continuous operation. Transient operation defines the maximum permissible running time.

Magnetic ring

The magnetic ring (5) is located in the area of the drive head (3). It is driven by the winding shaft (12) and the adapter (4) and is used to find the end points, and monitor/control the shaft rotations in normal mode.

Configuration of KNX/EIB actuators for RADEMACHER tubular motors

- ◆ KNX/EIB actuators are used to control electrically operated roller shutters, awnings etc.
- ◆ Some parameters must be set prior to commissioning in order to ensure trouble-free operation.

Universal setting cable

RADEMACHER accessory for the specialist company to set the end points.

Type	4090-1
Item no.	9600 00 86

1



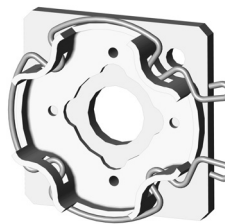
b)



c)



d)



Included in the delivery

RolloTube S-line Zip DuoFern	Small	Medium
(a) Tubular motor	1 x	1 x
(b) Adapter	1 x	1 x
(c) Catch	1 x	1 x
(d) Click drive bearing	1 x	1 x

Please note:

Customer-specific scope of delivery

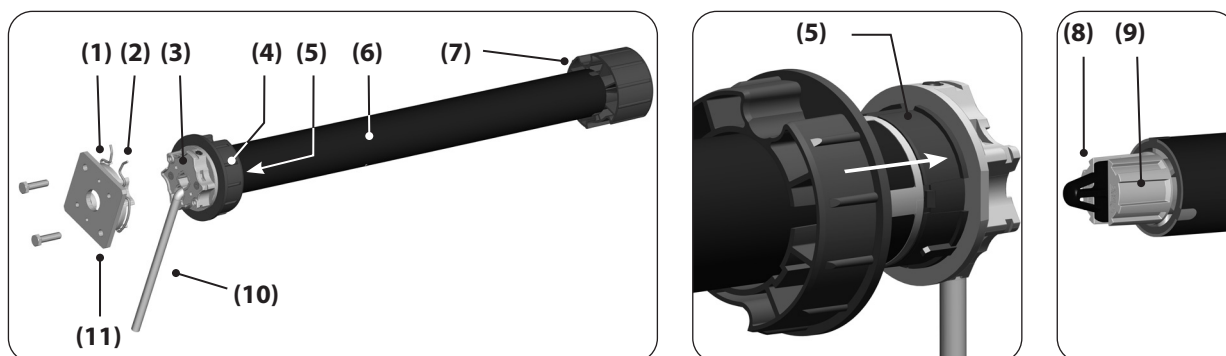
After unpacking please check the following:

Check that the package contents match the scope of delivery listed on the package.

Check the details on the type plate

- ◆ Check the details for the motor type.
- ◆ Check that the voltage / frequency corresponds to the local mains conditions.

2



Key to the general view

- | | |
|---------------------------|-------------------------------|
| (1) Click drive bearing * | (7) Catch * |
| (2) Retaining spring * | (8) Retaining clip |
| (3) Drive head | (9) Drive adapter |
| (4) Adapter * | (10) Motor cable |
| (5) Magnetic ring | (11) Drive bearing base plate |
| (6) Tubular motor | |



* The necessary accessories and all tubular motor controllers for this type of tubular motor incl. the technical information and manuals can be found on our website.
www.rademacher.de

The RADEMACHER RolloTube S-line Zip DuoFern radio tubular motors are used for raising and lowering screens in Zip systems.

The RolloTube S-line Zip DuoFern tubular motors are self-learning motors. The end positions are automatically learned during the first run cycles. This eliminates the need to set the end points or a teach-in run. However of course, the end points can also be set manually, see page 23.

The compact design and self-learning motor ensure a quick and easy installation.

The RolloTube S-line Zip DuoFern impresses in daily operation with blockage detection in both directions of travel and obstacle detection, ensuring maximum safety and gentle operation.

Use in the DuoFern network

As soon as you integrate your RolloTube S-Line Zip DuoFern into a DuoFern radio network, you can set and make use of many different automatic functions using DuoFern controllers such as the RADEMACHER SmartHome Box.

DuoFern controllers and transmitters must be connected to the DuoFern network.

Overview of functions:

- ◆ Self-learning motor with automatic end point setting
- ◆ Exact position detection, torque monitoring and obstacle detection
- ◆ Blockage and obstacle detection including a reversing function.
- ◆ Quick and easy installation thanks to the short design
- ◆ Wind detection

6.1 Blockage detection function

Function of the blockage detection when raising the screen

The tubular motor stops and automatically relieves the strain on the screen by shifting briefly in the opposite direction (reversing) in the event that the screen is blocked by an obstacle while it is being raised.

Requirements for correct blockage detection:

- ◆ The screen must move easily and freely.

If the motor detects a blockage due to strong wind, it will reverse first. After a few seconds, another attempt is made to raise the screen. The number of attempts can be configured via the SmartHome Box.

In conjunction with an environmental sensor/etc., the motor can react to a wind command and raise the screen without detecting a blockage.



Moving a blocked (e.g. iced-up/jammed) screen can result in overloading and damage to the tubular motor and Zip system.

- ◆ Do not move the iced-up/jammed screen and rectify the fault or remove the obstacle.

Function of the obstacle detection when lowering the screen

The tubular motor stops and automatically shifts briefly in the opposite direction (reverses) in the event that the screen hits an obstacle while it is being lowered.

Requirements for correct obstacle detection:

- ◆ The catch (7) must be mounted with the free-wheel mechanism (see fig. 8, page 14), original factory settings.
- ◆ The obstacle detection can be activated/deactivated via the SmartHome Box.

Information about multi-part systems

When using a tubular motor with obstacle detection in multi-part systems (several screens powered by a winding shaft), the obstacle detection may respond late or not at all.

6.3 Jog mode using a button

The RolloTube S-line Zip DuoFern can be controlled on site in jog mode using a button.

By briefly tapping the up or down button, the screen will travel up or down completely until it reaches the set end point. Tapping the button or the opposite direction once more causes the motor to stop.

After pressing and holding the up or down button (for more than approx. 1 second), the motor stops when the button is released!

6.4 Operation using a switch

The RolloTube S-line Zip DuoFern can be controlled on site using a switch.

By pressing the up or down direction on the switch, the screen will lower or raise completely until it reaches the set end point. By deactivating the specified direction of travel, the motor can be stopped at the desired position.

6.5 Jog mode using a 1-pole button

The RolloTube S-line Zip DuoFern can also be controlled on site using a 1-pole button.

Activating the function

The function is deactivated in the factory settings; once the button has been connected, the function must first be activated on the tubular motor, see page 21.

The function can be deactivated again as required.

Switching sequence on the button

Up / stop / down / stop etc.

By entering its radio code, the RolloTube S-line Zip DuoFern can be logged on to a SmartHome Box or a DuoFern Manual Control.

Then use the remote log-on / log-off function to activate other DuoFern devices (e.g. DuoFern Manual Transmitter).

Time window for activation via the DuoFern radio code

After switching on the power supply, the radio code is active for a maximum of 2 hours. Once this time has elapsed, activation using the radio code is no longer possible. Briefly disconnect the RolloTube S-line Zip DuoFern from the mains to reactivate the time window.

The DuoFern radio code can be found on the enclosed motor cable label



It is imperative that you store the enclosed label safely e.g. by fixing it to the cover sheet of this manual.

This means that you will still be able to access the log-on mode of the RolloTube S-line Zip DuoFern without having to open the inspection cover of the Zip system.



7. Important installation instructions

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The preparation measures must be adapted to the existing Zip system on site, due to the various models of Zip systems available.

Preparation for the installation

- ◆ Check that the structural base is sufficiently stable for the operation of an electrically powered Zip system.
- ◆ Check that the voltage / frequency on the type plate corresponds to the local mains conditions prior to installation.
- ◆ You must remove or deactivate all cables and equipment not required for operation of the equipment prior to installation of the tubular motor.
- ◆ Moving drive parts to be operated at a height under 2.5 m from the floor must be protected.
- ◆ If the tubular motor is to be controlled with a switch with a default OFF pre-setting, then the switch is to be positioned in the line of sight of the tubular motor away from moving parts and at a height of at least 1.5 m.
- ◆ The tubular motor must be easily accessible at a later stage and the motor cable (10) must be laid without kinking.



Installing the tubular motor incorrectly can cause the tubular motor or Zip system to be damaged.

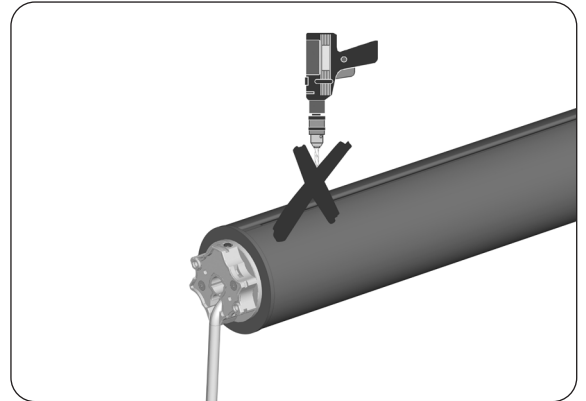


There is a risk of short circuits and fire in the event of direct weather influences to the unprotected tubular motor.

- ◆ The installed tubular motor may never be subjected to direct rain or snow as this may lead to life-threatening situations due to short circuiting and damage to the motor.
- ◆ Only install the tubular motor in Zip systems where the motor is structurally protected from direct rain or snow.
- ◆ Install a suitable protective hood for the tubular motor, if necessary.



Drilling and inserting screws in the area of the drive will cause the tubular motor to be damaged.



Risk of fatal injury from crushing in the event of operation without set end points.

- ◆ The end points must be set in order to ensure safe operation. In order to do so, please refer to the corresponding chapter in this manual on page 23.



Risk of injury when working at heights due to falling.

- ◆ Take suitable measures to ensure safe working at heights.
- ◆ Ensure that ladders or scaffolding stand securely.



7.1 Mounting the drive bearing (1)

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The drive bearing as a click bearing

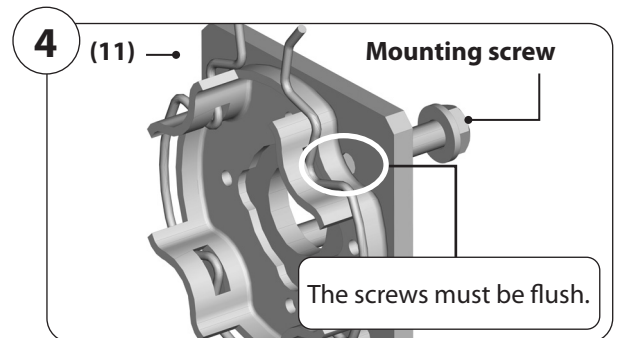
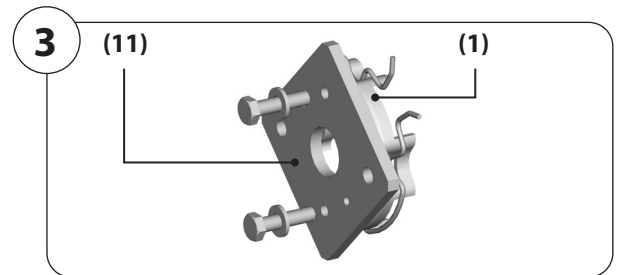
1. Screw the drive bearing (1) to the designated mounting device of the Zip system.

ATTENTION!



If excessively long assembly screws are used, the drive bearing (1) may be bent or damaged.

- ◆ The assembly screws must sit flush with the base plate (11) as otherwise the drive bearing (1) may be bent and pushed off the base plate.
- ◆ This applies particularly if the inner assembly holes are used on the base plate.



Mounting other drive bearing variants

The assembly of other bearing variants is undertaken in the same way as in the previous description. Pay attention to the special characteristics of the respective bearing type, e.g. the securing of the drive head to the drive bearing with a cotter pin.



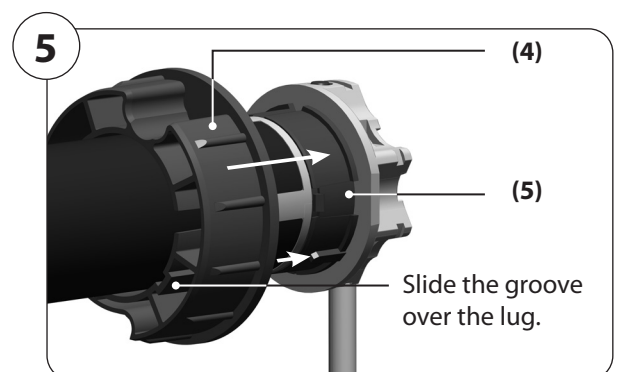
7.2 Mounting/dismantling the adapter (4)

Mounting the adapter (4)

1. Slide the adapter (4) over the magnetic ring (5) on the drive head until it engages. Check the correct positioning of the groove in the adapter.

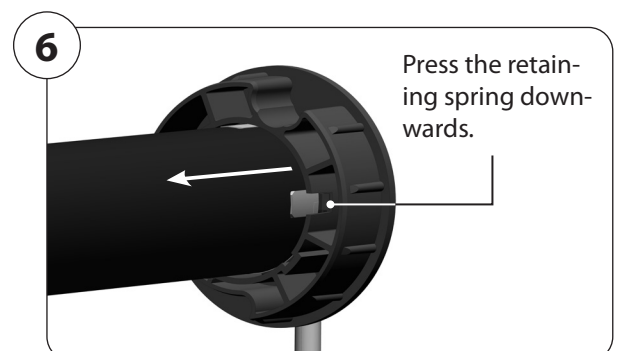


The adapter is supplied pre-installed at the factory.



Dismantling the adapter (4)

1. Press the two retaining springs on the magnetic ring (5) downwards and pull the adapter (4) off the magnetic ring.





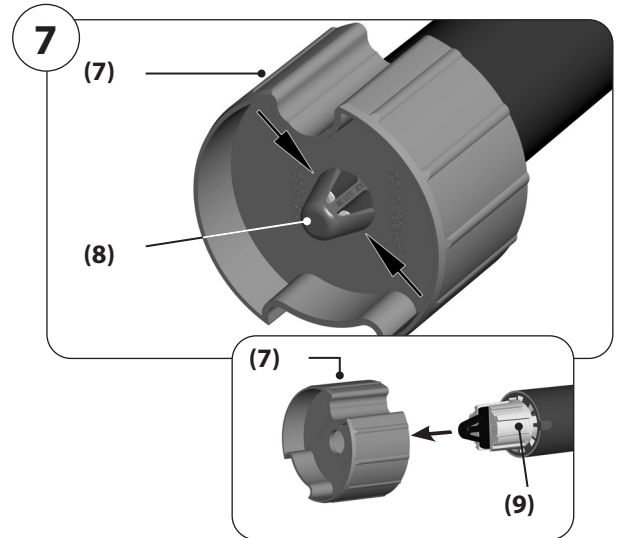
7.3 Dismantling the catch (7)

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The catch (7) can be mounted with or without the freewheel mechanism.

- ◆ The factory pre-setting for the catch is **"with the freewheel mechanism"**.
- ◆ The catch (7) must first be dismantled before changing the mounting mode.

1. Press the side parts of the retaining clip (8) together and pull the catch (10) off the drive adapter (9).



7.4 Mounting the catch (7) with the freewheel mechanism



If the tubular motor is to be operated with the self-learning end point setting and obstacle detection, the catch (7) must be mounted with the freewheel mechanism (**original factory settings**).

1. Slide the catch (7) onto the drive adapter (9) so that it can freewheel and so that it engages behind the retaining clip (8).

The catch (7) can be easily turned back and forth when freewheeling.

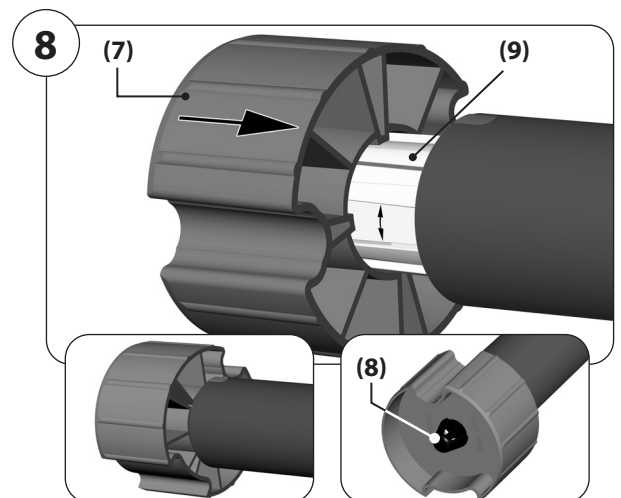


ATTENTION!



Installing the catch (7) without the freewheel mechanism can cause damage to the screen or lead to malfunctions with the self-learning and manual end point setting.

- ◆ **Never** install the catch (7) without the freewheel mechanism.

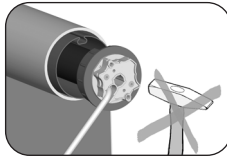




7.5 Sliding the tubular motor (6) into the winding shaft (12)

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ATTENTION!



Inserting the tubular motor (6) forcibly into the winding shaft (12) will cause serious damage.

◆ Never knock the tubular motor (6) with force into the winding shaft (12).

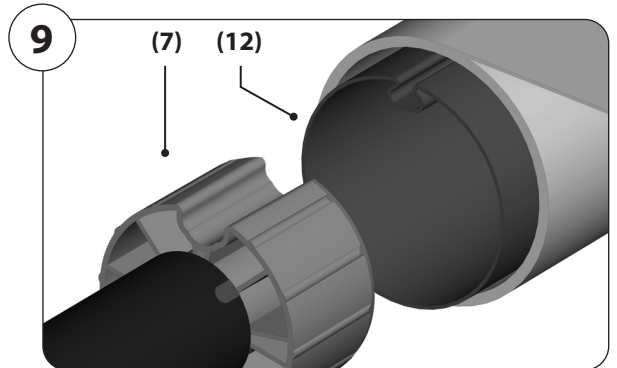


The motor cable (10) must be laid without kinking.

1. First slide the catch (7) into the winding shaft (12).



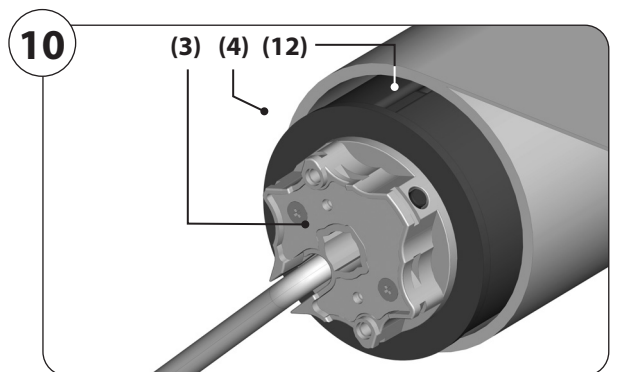
The motor must have sufficient free space for winding shafts with internal felt.



2. Subsequently press the tubular motor into the winding shaft (12) until the adapter (4) is fully inserted in the shaft.

ATTENTION!

◆ Ensure that the adapter (4) does not slip off the magnetic ring (5) on the drive head (3) during the installation process. Otherwise malfunctions may occur, see page 27.



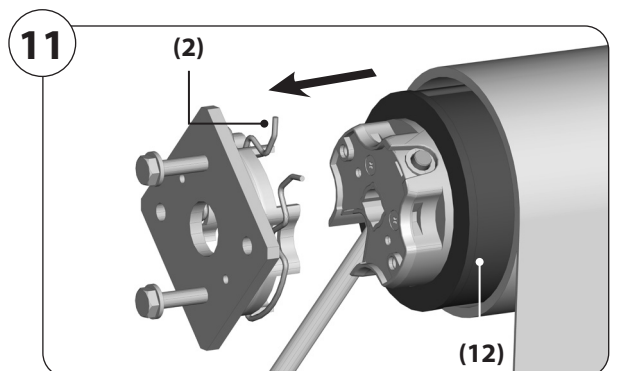
7.6 Inserting the motor into the drive bearing (1)

1. Press the drive head (3) lightly into the click bearing (1) until it engages.



The tubular motor can be fitted into the click bearing (1) in 4 positions.

The motor can be released from the click bearing (4) at any time by means of expanding the retaining spring (2).



7.6.1 Inserting the winding shaft (12) into the counter bearing

Finally, insert the winding shaft back into the existing counter bearing.



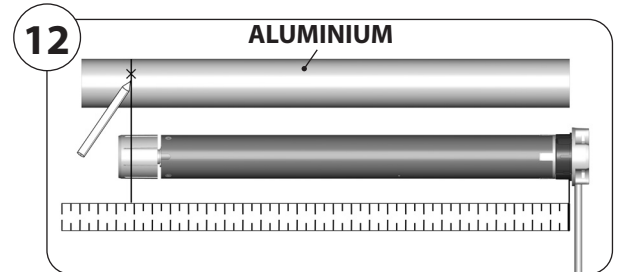
7.7 Preparation for the use of precision tubes

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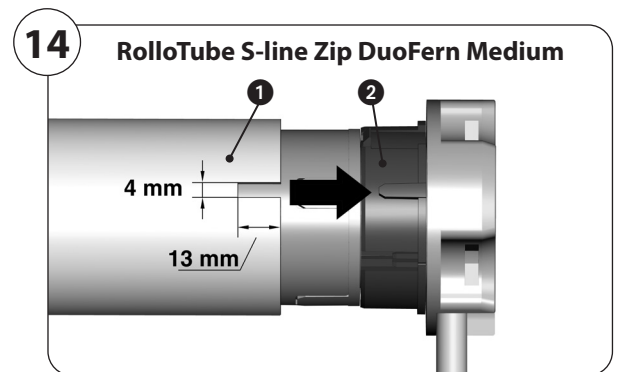
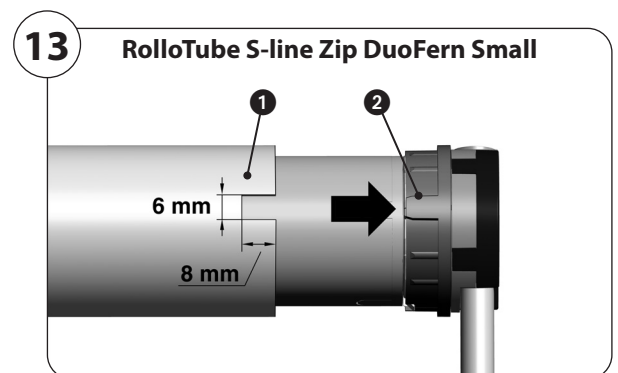
Please only use precision tubes made of aluminium.

1. Measure the distance between the adapter (4) and the rear third of the catch (7) and mark this distance on the precision tube.

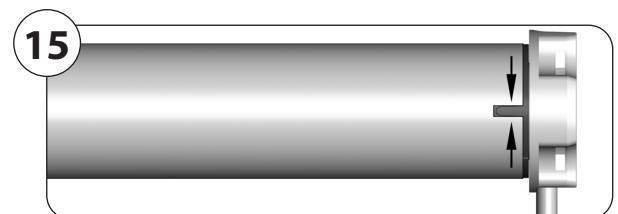


2. Saw a groove (1) at the end of the precision tube so that the cam (2) of the adapter (4) can be completely pressed into the tube.

- ◆ There may not be any play between the groove (1) and the cam (2).
- ◆ The dimensions for the groove (1) are dependent on the respective motor type.



3. Slide the tubular motor into the precision tube.





7.7 Preparation for the use of precision tubes

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4. Mark the four fastening holes and subsequently drill them through the precision tube into the catch (7).

 **ATTENTION!**

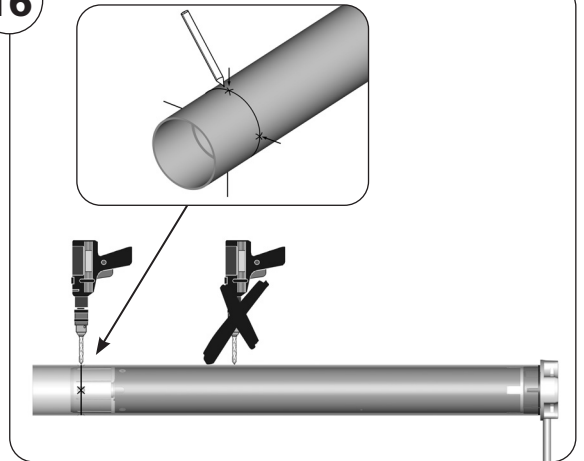
Drilling too deeply may break the freewheel mechanism.

- ◆ Never drill deeper than 10 mm into the catch (7).

Drilling in the area of the drive will cause serious damage.

- ◆ Never drill in the area of the drive (6).
-

16



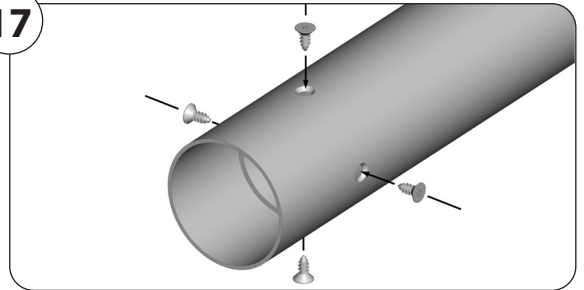
5. Screw or rivet the precision tube to the catch (7). Use four self-tapping sheet metal screws or four pop rivets for this.

 **ATTENTION!**

Screws or rivets that are too long interfere with the freewheel mechanism.

- ◆ Do not use screws or rivets longer than 10 mm.
-

17





8. Safety instructions for the electrical connection

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DANGER!



Risk of fatal electric shock when touching electrical components.

- ◆ Carry out all installation and connection work only in a de-energised state.
- ◆ Disconnect all phases of the mains power lead and secure it to prevent any reconnection.
- ◆ Check that the system is de-energised.

Fixed installation devices...

...must be equipped on the installation side with a circuit breaker for each phase in accordance with DIN VDE 0700. Switches with a contact opening width of min. 3 mm can be used as circuit-breakers (e.g. power switch, power circuit breaker or residual-current-operated circuit-breaker).



WARNING!



Risk of short circuits resulting from damaged cables.

- ◆ Lay the motor cable (10) so that it cannot be damaged by moving parts of the ZIP system.
- ◆ The mains connection for the drive may only be connected with the same conduction type. Consult customer services if necessary.
- ◆ Seal the wall duct after laying the motor cable (10) in order to prevent the ingress of water.

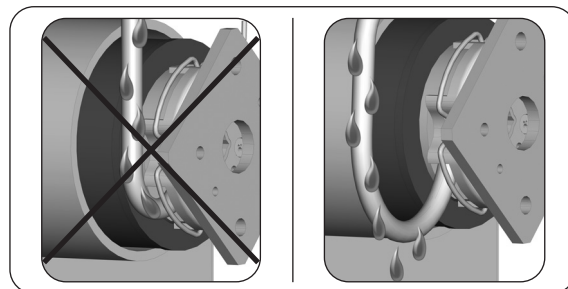


WARNING!



Risk of short circuits resulting from water in the event of improper cabling.

- ◆ Never lay the motor cable (10) vertically upwards otherwise water may collect on the cable and run into the motor, leading to damage.
- ◆ Lay the cable in a loop. The loop will cause any water on the cable to collect at the lowest point, from where it can drain off.







8.1 The motor cable (10)

EN

1. Connect the motor cable (10) according to the following wiring configuration.

Colour scale of the motor cable (10)

L1	=		(black) *
L2	=		(brown) *
N	=	neutral terminal	(blue)
L	=	continuous phase	(grey)
PE	=	earth	(green / yellow)

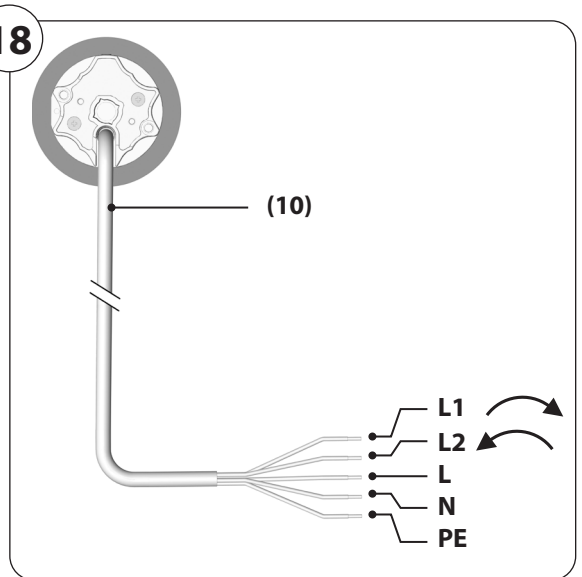
i

* The actual direction of travel of the tubular motor and the screen depends on the wiring of the tubular motor.

i

Shortening the motor cable (10) can limit the radio range. The antenna is also integrated in the motor cable.

18





8.2 Electrical connection of the tubular motor

EN

8.2.1 Controlling the tubular motor via radio

Key:

(a) = Socket box

(b) = Mains 230 V/50 Hz


Pin assignment:

(e) = PE green/yellow

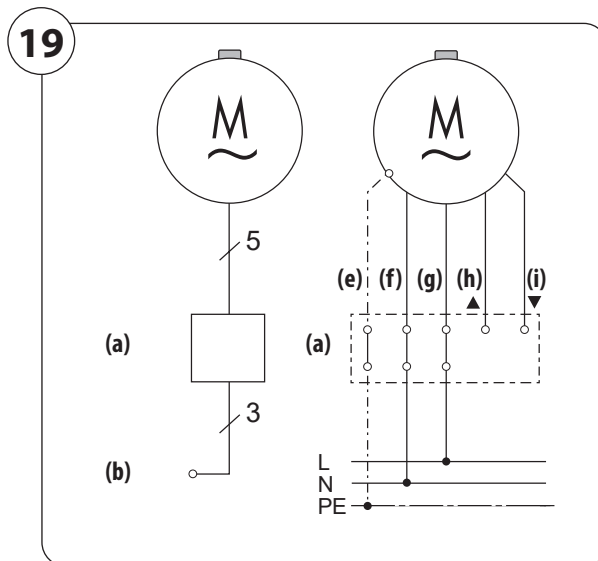
(f) = N blue

(g) = L grey (continuous phase)

(h) =  black (direction of travel 1) *

(i) =  brown (direction of travel 2) *

* The black and brown wires (direction of travel 1 and 2) are not required for radio operation and are therefore not connected.



8.2.2 Controlling the tubular motor using a switch or button

Key:

(a) = Switch or button

(b) = Mains 230 V/50 Hz


(c) = Socket box

Pin assignment:

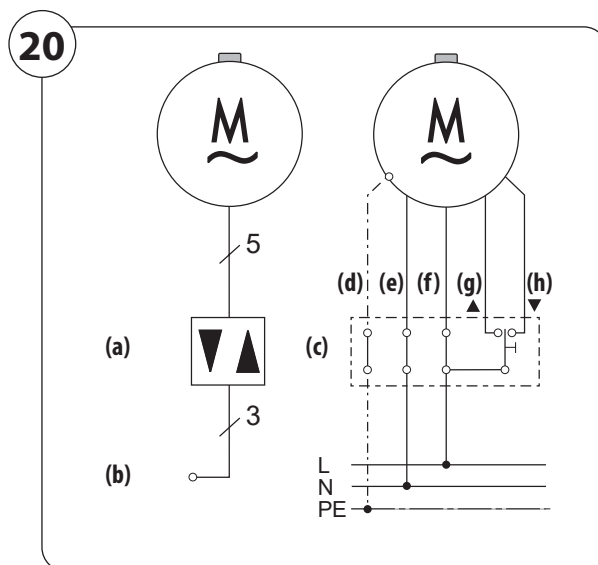
(d) = PE green / yellow

(e) = N blue

(f) = L grey (continuous phase)

(g) =  black (direction of travel 1)

(h) =  brown (direction of travel 2)



Example: Circuit layout using a button



When using a switch, we recommend that the mains power to the motor is switched off (switch in zero position) after reaching the end points. This avoids the motor experiencing sources of interference or excess voltages.



8.2 Electrical connection of the tubular motor



EN

8.2.3 Controlling the tubular motor using a 1-pole button (closer)

Key:

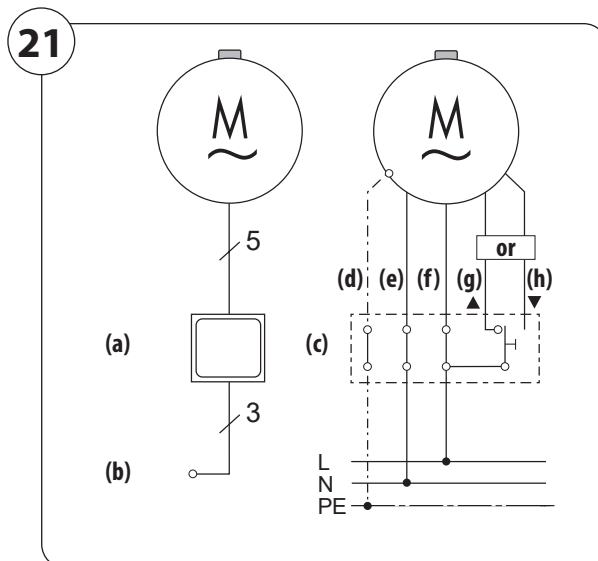
- (a) = 1-pole button
 (b) = Mains 230 V/50 Hz
 (c) = Socket box

Pin assignment:

- (d) = PE green / yellow
 (e) = N blue
 (f) = L grey (continuous phase)
 (g) =  black (direction of travel 1)
 (h) =  brown (direction of travel 2)



Once the button has been connected, the function must be activated on the RolloTube S-line Zip DuoFern.



Activating the “1-pole button” function

1. Tap the button 4x briefly and press and hold the 5th time.
2. The connected tubular motor will acknowledge this with a slight movement and the function is activated.

The switching sequence is as follows:

Up / stop / down / stop / etc.

Deactivating the “Button” function

Repeat steps 1 and 2.

8.2.4 Parallel connection of several motors

It is possible to connect numerous RADEMACHER tubular motors in parallel. The number of motors to be connected in parallel is dependent on the capacity of the switchgear and circuit-breakers.



The end points must be set on each individual motor prior to parallel connection. Please refer to the respective operating manual.



It is not possible to control individual motors if the equipment is connected in parallel.

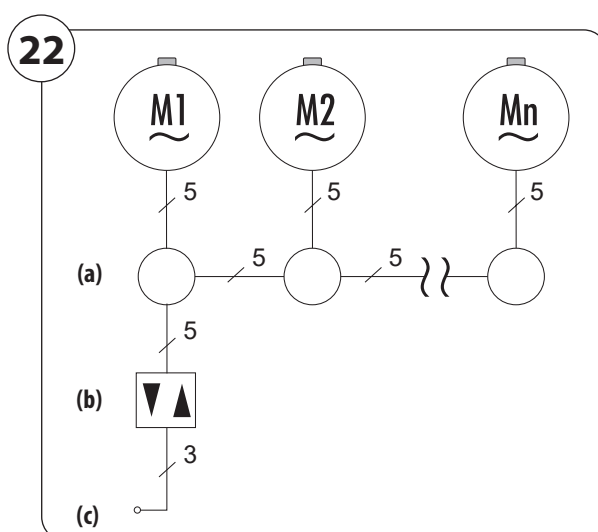
Parallel connection with Venetian blind switches or Venetian blind buttons

Up to five motors can be switched in parallel with RADEMACHER Venetian blind switches or Venetian blind buttons.

Parallel connection with RADEMACHER controllers (e.g. Troll Comfort)

Please refer to the technical specifications for the respective number of tubular motors that can be

connected in parallel.



Installation example

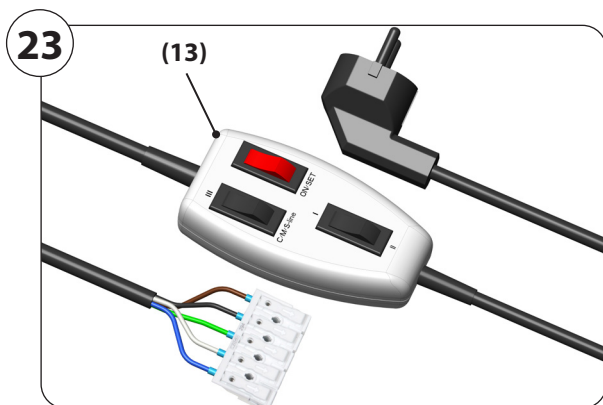
Key

- (a) = Junction box
 (b) = Controller, e.g. 1-pole switch / button
 (c) = Mains 230 V / 50 Hz



8.3 Connection of the universal setting cable for manual end point setting

EN



Pin assignment:

The connection is made with the same colours as the connecting cable of the RolloTube S-line Zip DuoFern, see figure [18].

1. Open the terminal contacts by pressing the plungers and connect all of the wires of the motor cable (10) with the same colours and corresponding to their functions, see also figure [18].

Button assignment for the RolloTube S-line Zip DuoFern:

Button 2



Button 3

Button 1

Button 1 = direction of travel (I / II)

Button 2 = set button (III)

Button 3 = continuous phase (ON/SET)





9. Self-learning mode

EN

The RolloTube S-line Zip DuoFern is delivered from the factory in self-learning mode and can be put into operation immediately after the electrical connection.

1. Switch on the mains power supply. When using the universal setting cable, press the On/Set button.

The RolloTube S-line Zip DuoFern is ready for operation immediately.

2.   First lower and then raise the screen.
The end positions are automatically learned during the first run cycles.

3. Subsequently check the direction of travel if the RolloTube S-line Zip DuoFern is being operated using a switch or button.

Switch the lines for the rotation direction if the direction of travel is wrong, see connection diagram [20 / 21] on page 20 / 21 .



The processes must not be interrupted while learning the lower end point.

While learning the lower end point, it is important to note that the motor runs until the screen hangs loosely and then moves back automatically until the screen is taut again and stops. This is a sign that the lower end point has been learned.



Over-dimensioned tubular motors can lead to malfunctions during end point setting in self-learning mode.

Please monitor the screen closely during this process. If the motor does not stop when the screen is taut again and raises the screen again, the motor is over-dimensioned for the Zip system and the process must be interrupted. The outer end point must be set manually in this case.



10. Manual adjustment of end points

If necessary, you can also set the end points manually in combination with self-learning mode.

All automatically self-learned end points can be manually corrected, if necessary.

Initial installation

During the initial installation, the engineer can adjust the end points with a **universal setting cable (13)**, available from a specialist retailer.



More detailed information can be found in the operating manual of the respective accessories.

Subsequent modification of the end points with external controllers

If you want to subsequently modify the end points, you can adjust these with your controller.

WARNING!



Risk of fatal injury (electric shock) caused by the motor cable (10) tearing off.

- ◆ Ensure that the motor cable (10) is not taken up and torn off by moving parts during the setting process.



Important conditions for adjusting the end points and for safe operation

- ◆ End points must be set in order to switch off the motor when they are reached for both directions of travel, up (▲)/ down (▼).
- ◆ The tubular motor must be fully installed.

CAUTION!

Risk of injury during the setting process due to crushing of the hand by moving parts.

- ◆ Never reach into the area of the winding shaft (12) or guide rails when the motor is running.



10. Manual adjustment of end points

EN

1. First, switch on the mains power or continuous phase at the universal setting cable.

2. Move the screen to the desired direction, e.g. upwards, if the upper end point is to be corrected.

ATTENTION!

When setting the end points, a combination with a DuoFern radio remote control can cause malfunctions.

3. Press/tap twice briefly and press and hold the third time.

4. Release the button again as soon as the desired end point is reached.

5. You can adjust the end point in small steps by briefly pressing the button.

6. Switch off the specified direction of travel after successfully setting the end points.
Briefly move the motor in the opposite direction to store the end point.

7. Check your settings and allow the screen to run in both directions until the motor switches off at the end points.

8. Then switch off the continuous phase on the universal setting cable.

With the universal setting cable



ON/
SET

The LED on button 3 must light up continuously.



I

Direction of travel 1

or

II

Direction of travel 2



Set the rocker switch to the centre position.



Direction of travel 1



Direction of travel 2





10. Manual adjustment of end points

EN

Reset the original connection in accordance with the connection diagram [19 to 21] on pages 20 to 21 if you have carried out the setting with the universal setting cable.



In the event that a malfunction occurs during the setting process, e.g. the tubular motor only runs for a single rotation even when you press and hold the set button, the adapter (4) may have slipped off the drive head (3).

◆ If necessary, check and correct the positioning of the adapter (4), see page 27.



10.1 Test run / modifying the end points

Test run

1. Subsequently check the direction of travel if the RolloTube S-line Zip DuoFern is being operated using a switch or button.
Switch the lines for the rotation direction if the direction of travel is wrong, see connection diagram [20 / 21] on page 20 / 21 .
2. Check your settings and allow the screen to run in both directions until the end points switch off the motor.



ATTENTION!

The tubular motors are designed for transient operation (approx. 4 min.).

If this period is exceeded, or if the equipment is switched over frequently, then the motor may heat up and the thermal protection system will switch it off.

◆ In this case, allow the motor to cool down for 20 minutes.

Modifying the end points

Move the screen back to the centre position and begin the process again.



11. Reloading the factory settings

EN

Self-learning mode is active again after loading the factory settings.

Notes for carrying out the setting

- ◆ Use the new universal setting cable (13) available from a specialist retailer.
- ◆ The tubular motor may not be in operation.

Factory settings:

End points:	no end points stored
Self-learning mode:	activated
Blockage detection:	activated
Obstacle detection:	activated
Jog mode with a 1-pole button:	deactivated

When using the universal setting cable (20)

1. Button 3 - ON/SET

First, switch on the continuous phase.



2. Button 1 - Switch to the desired direction of travel (I or II)

> while simultaneously (within one second) pressing and holding

Press and hold **button 2** (set button III) until the tubular motor confirms this by briefly running up and down (approx. 5 seconds).

After that the factory settings are loaded.

Subsequently:

- ◆ Release **button 2** (set button III)
- ◆ **Button 1** (I/II) in the centre position
- ◆ Deactivate **button 3** (ON/SET)



3. Switch off the mains power and reset the original connection in accordance with the connection diagram [19 to 21] on pages 20 and 21 if you have carried out the setting with the universal setting cable.

...the motor fails to start?**Possible cause:**

- ◆ The mains voltage is not available.



Solution:

- ◆ Check the power with a meter to ensure that the supply voltage (230 V) is available and check the wiring.
- ◆ Observe especially the information relating to impermissible connection types.

...the wiring is incorrect?**Possible cause:**

- ◆ The control lines are mixed up.

Solution:

- ◆ Disconnect the lead from the mains and exchange the wires for L1  and L2 .

...the tubular motor stops after a short period of time during the setting and test procedures?**Possible cause:**

- ◆ The adapter (4) may have slipped off the magnetic ring (5) on the drive head (3).

Solution:

- ◆ Check that the adapter (4) sits flush with the drive head (3) and is fully inserted in the winding shaft (12).
- ◆ Slide the adapter (4) so that it is flush with the drive head (3) and then press the tubular motor into the winding shaft (12) so that the adapter (4) is fully inserted in the winding shaft, see figures [5 / 10]. Re-adjust the end points if necessary, see page 23.

...the tubular motor stops between the two end points during normal operation?**Possible cause:**

- ◆ The thermal protection system has triggered.

Solution:

- ◆ Wait approx. 20 minutes until the motor has cooled down.

...the tubular motor stops when the screen is lowered?**Possible cause:**

- ◆ The motor must push the screen down because the winding shaft (12) is not running smoothly.

Solution:

- ◆ Check/restore the free movement of the screen or consult a specialist company.

... the tubular motor does not stop after tightening the screen when the lower end point is set automatically but starts up again?**Possible cause:**

- ◆ The tubular motor may be over-dimensioned.

Solution:


- ◆ The lower end point must be set manually in this case.

... the tubular motor cannot raise the lowered screen again?**Possible cause:**

- ◆ The tubular motor may be under-dimensioned.

Solution:

- ◆ Use a tubular motor with a more powerful driving force.

Motor series:		SLDZS xx/xx Z		SLDZM xx/xx Z				
Nominal torque	Nm	6	10	10	20	30	40	50
No-load speed	rpm	28	16	16	16	16	16	12
Nominal voltage	V	230	230	230	230	230	230	230
Frequency	Hz	50	50	50	50	50	50	50
Nominal power	W	121	121	112	145	191	198	205
Current consumption	A	0.53	0.53	0.49	0.64	0.83	0.86	0.89
On-period (KB)	min.	4	4	4	4	4	4	4
Number of wires		5	5	5	5	5	5	5
Core cross section	mm ²	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Connecting cable (rubber)	m	3	3	3	3	3	3	3
End switching range: (number of revolutions.)	rev.	112	64	64	64	64	64	48
Insulation class		H	H	H	H	H	H	H
Protection class		I	I	I	I	I	I	I
Protection type in accordance with VDE 700		IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Motor length without bearing	mm	485	485	487	487	546	546	546
Tube diameter	mm	35	35	45	45	45	45	45
Sound pressure level (LpA)	dB(A)	≤ 70	≤ 70	≤ 70	≤ 70	≤ 70	≤ 70	≤ 70
Transmission frequency	MHz	434.5	434.5	434.5	434.5	434.5	434.5	434.5
Max. transmission power	mW	10	10	10	10	10	10	10
Approx. range								
- In a building (depending on the building structure)	m	30	30	30	30	30	30	30
- Outdoors	m	100	100	100	100	100	100	100
Number of parallel tubular motors that can be connected in parallel (when using RADEMACHER controllers, e.g. Troll Comfort)		3	3	2	2	2	2	2

14. Configuration of KNX/EIB actuators for RADEMACHER tubular motors

In order to ensure trouble-free operation of RADEMACHER tubular motors with KNX/EIB actuators, the following parameters must be set prior to commissioning:

Transient operation

If possible, transient operation (slat adjustment) should be switched off.

e.g. **Mode for transient operation**
Time: = 0 ms

If transient operation cannot be deactivated from within the software application, ...

...then you must ensure that the time between transient operation and long-term operation on the key sensor is less than the time between transient operation and long-term operation on the actuator. This will ensure that transient switch-off of the actuator is prevented when holding the sensor key down.

Long-term operation

The motor **must** be switched off at the latest after 180 seconds.

e.g. **Basis for long-term operation**
Basis: = 2.1 s
Factor: = 86
= (2.1 s x 86 = 180.6 s)



15. Logging DuoFern devices on/off

EN

In order to control the RolloTube S-line Zip DuoFern using the SmartHome Box or a DuoFern transmitter (e.g. DuoFern Manual Control), **every** DuoFern device must be connected to the RolloTube S-line Zip DuoFern.

You can connect up to 20 DuoFern devices, e.g. SmartHome Box, DuoFern Manual Control, DuoFern Manual Transmitter Standard etc. to the RolloTube S-line Zip DuoFern.

There are different options for logging a DuoFern device on/off from the RolloTube S-line Zip DuoFern:

- ◆ Using a switch or button.
- ◆ Using the radio code.

Time window for activation via the DuoFern radio code

- ◆ After switching on the power supply, the radio code is active for a maximum of 2 hours. Once this time has elapsed, activation using the radio code is no longer possible. Briefly disconnect the RolloTube S-line Zip DuoFern from the mains to reactivate the time window.



15.1 Logging a DuoFern device on/off using a switch/button or with a universal setting cable

EN

Requirement

The tubular motor must be stopped.

1. Switch on the mains power.

2. Activate log-on/off mode for the tubular motor as follows.



120 seconds

Log-on/off mode remains active for approx. 120 seconds.

3. Activate log-on or log-off mode on the DuoFern device.

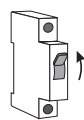


Please read the operating manual of the respective DuoFern device.

4. The tubular motor acknowledges a successful log-on/off by starting up briefly.

5. Log the next DuoFern device on or off, or end the process.

Using a switch /button



ON



A desired direction of travel

Tap 2 x and press and hold the third time until the tubular motor starts up briefly.

Release/deactivate the button again.



Pay attention to the time remaining for logging the DuoFern device on or off.

With the universal setting cable



ON/
SET

The LED on button 3 must light up continuously.

I

Direction of travel 1

or

II

Direction of travel 2

Switch on/off briefly 2 x and hold the third time until the tubular motor starts up briefly.

I

Then move the rocker switch to the centre position.

II

ON/
SET

To terminate the process, deactivate button 3 (continuous phase).



15.2 Activating log-on mode using the remote log-on function

The RolloTube S-line Zip DuoFern can be set to log-on mode in combination with a SmartHome Box or DuoFern Manual Control using the remote log-on function in order to activate other DuoFern devices (e.g. DuoFern Manual Transmitter).

CE RADEMACHER Geräte-Elektronik GmbH hereby declares that the tubular motors in the RolloTube S-line Zip DuoFern Small and Medium series comply with the Directives **2006/42/EC (Machinery Directive)** and **2014/53/EU (Radio Equipment Directive)**.

The full text of the EU declaration of conformity is included with the product and is kept on file by the manufacturer.

RADEMACHER Geräte-Elektronik GmbH
Buschkamp 7
46414 Rhede (Germany)

Warranty terms and conditions

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

RADEMACHER

Geräte-Elektronik GmbH

Buschkamp 7

46414 Rhede (Germany)