

en

Assembly and Operating Instructions Drives for Sunshades/Awnings with integrated radio receiver

Important information for:

- Fitters
- Electricians
- Users

Please forward accordingly!

These instructions must be kept for future reference.



Assembly and Operating Instructions

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General

These tubular drives are high-quality products with the following features:

- **Optimized drives for sun protection applications (for use in roller shutter types P5/16PRF+ to R40/17C PRF+)**
- **Suitable for awnings and winter garden shades.**
- **No external limit switches**
- **The end limits do not have to be readjusted: changes in shutter curtain/canopy length are adjusted automatically thanks to the use of end stops**
- **Optimum adjustment of the tensile load to the mechanical requirements of the sun shade system**
- **Minimum curtain and seam load**
- **Automatic end stop detection**
- **Extension length can be easily set using the transmitter (direct setting)**
- **Left or right-hand installation**
- **Radio-operated individual and group control**
- **No additional wiring to the switch or a relay control**
- **Drive and transmitters can be freely combined**
- **Easy group selection**
- **End limits can be programmed and deleted by remote control**
- **„Complex code“ remote control system with variable code lengths up to 64 bit, allowing more than 1 billion different codes**
- **Transmitter data can be easily copied**

When installing and setting the system please ensure that the assembly and operating instructions provided are followed closely.

Warranty

Structural modifications and incorrect installation which are not in accordance with these and our other instructions can result in serious injuries, e.g. crushing of limbs. Therefore, structural modifications should only be carried out with our prior approval and in accordance with our instructions, particularly the information contained in these Assembly and Operating Instructions. Any further processing of the products which does not comply with their intended use is not permitted.

The end product manufacturer and fitter have to ensure that all the current statutory, official regulations and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product assembly, installation and customer advice.

Safety Information

The following safety instructions and warnings are intended to avert hazards and to prevent damage to property and personal injuries. **Please retain for future reference.**



Caution

Denotes a potentially hazardous situation. If this is not avoided, injuries may result.



Attention

Denotes a potentially hazardous situation. If this is not avoided, the product or something in its vicinity may be damaged.



Note

Denotes user tips and other useful information.



Important safety instructions for the user

Caution! Failure to observe these instructions can lead to serious injuries.

- All operational work including maintenance and cleaning, on electrical installations as well as other parts of the construction must always be performed by authorised specialists, especially by qualified electricians.
- Do not allow children to play with control units.
- Systems have to be regularly checked by authorised specialists for wear and damages.
- Always put damaged systems out of operation immediately until they are repaired by an authorised specialist.
- Do not operate equipment if people or objects are within the danger zone.
- Observe the danger zone of the equipment during operation.
- Bring the equipment to a stop and disconnect the mains power supply when maintenance and cleaning jobs are performed either on the system itself or in the immediate vicinity of it.
- Ensure that there is an adequate distance (at least 40 cm) between moving parts and adjacent objects.
- Crushing and shearing points must be avoided or protected.



Assembly and Operating Instructions



Important safety instructions for the installation and commissioning

Caution! Failure to observe these instructions can lead to serious injuries.

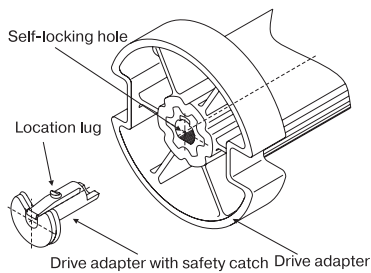
- Observe the safety instructions in EN 60335-2-97. Please note that this list of safety instructions is not exhaustive, since it would be impossible for the standard to include all sources of danger. For example, the design of the operated product, the way the drive works in the situation it is installed in or even the way the end product is mounted in the end user's place of use cannot be taken into consideration by the drive manufacturer. If any questions or uncertainties regarding the safety instructions contained in the standard arise, please contact the manufacturer of the part or end product in question.
- All work, including maintenance and cleaning, on electrical installations as well as other system parts must always be performed by authorised specialists, in particular qualified electricians.
- When electrical or electronic equipment and units are operated, certain components, e.g., the power supply unit, are live. Physical injuries or damage to property can result in the event of unauthorised interventions or failure to heed warnings.
- Be careful when touching the tubular drive, as it heats up during operation for technological reasons.
- All applicable standards and regulations for electrical installation must be complied with.
- Only use spare parts, tools and accessory devices which have been approved by the drive manufacturer.
- Unapproved third-party products or modifications to the system and its accessories represent a risk to your safety and the safety of others. This means that the use of unapproved third-party products, or modifications which have not been agreed with or approved by us, are prohibited. We do not accept liability for damages or injury arising from such actions.
- Before installation, shut down all lines and control devices that are not essential for operation.
- Position control devices within sight of the driven product, but away from moving parts, at a height of over 1.5 m.
- Permanently mounted control devices must be positioned where they can be seen.
- Ensure that there is adequate clearance between moving parts and adjacent objects.
- Rated torque and duty cycle must be suitable for the requirements of the driven product.
- Technical data – rated torque and service life can be found on the type plate of the tubular drive.
- Moving parts of drives must be installed at a height of over 2.5 m above floor level or any other surface from which access to the drive is gained.
- Crushing or shearing points must be avoided or protected.
- When installing the drive, all-pole disconnection from the mains with a contact gap of at least 3 mm per pole must be provided (EN 60335).
- To ensure safe operation of the system after commissioning, the limit positions must be correctly set/programmed in.
- If the mains connection cable is damaged, it may only be replaced by the manufacturer.
- The drive must not be carried by the mains connecting cable.
- Drives with a H05VV-F connecting cable may only be used indoors.
- To connect the drive to the driven part, solely mechanical accessory components made by the drive manufacturer from the current product catalogue may be used. The components must be installed in accordance with the manufacturer's instructions.
- All latching connections and fastening screws on the brackets must be checked to ensure that they are secure.
- If the drive is used for curtains in a specially marked area (e.g. escape routes, hazard zones, safety areas), compliance with all applicable regulations and standards must be ensured.

Intended Use

The tubular drives P3/30PSF to P9/16PSF are designed for operating awnings, screens and winter garden shades only. Linked operation is only possible if all sub systems run exactly synchronously and reach the top end limit at the same time. Other applications, utilisation and modifications are not permitted in order to protect the safety of the users and others, since these actions can impair the system's safety, resulting in personal injuries and property damage. Becker-Antriebe shall not accept liability for damages arising from such actions. Always observe the information in these instructions when operating or repairing the system. Becker-Antriebe shall not accept liability for damages resulting from incorrect usage.

Mounting and installation instructions

1 Drive adapter safety catch



Installing the tubular drive



Caution!

All electrical connections must be made by a qualified electrician. The current supply must be disconnected before installation. These installation instructions must be given to the electrician installing the equipment. Ensure that no damage occurs to the antenna insulation. The antenna carries electric potential.

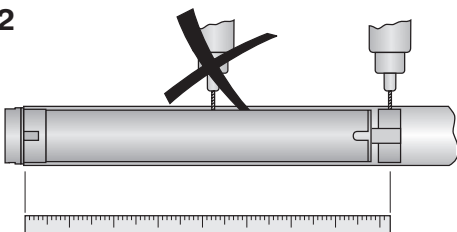
When installing the drive, the following steps must be carried out:



Attention

Drives from Becker Antriebe are to be mounted and operated solely with mechanical accessory components shown in the current Becker product catalogue.

2



1) Installing a drive adaptor with safety catch:

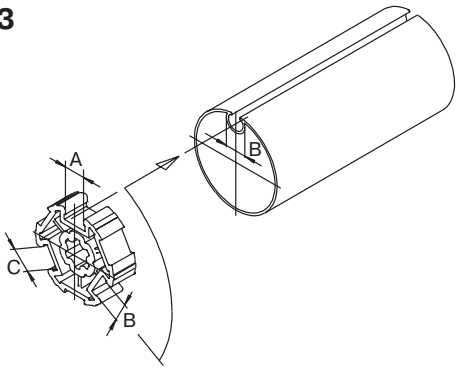
The insert direction of the drive adaptor safety catch is prescribed by its shape. When installing the drive adaptor, always ensure that the safety catch engages. A „clicking“ sound can be heard when the drive adaptor safety catch engages properly. Pull on the drive adaptor to check that it is located securely (Fig. 1).

2) Before inserting the drive into the tube, measure the dimensions from the end of the tube to the centre of the drive adaptor and mark the dimensions on the tube (Fig. 2).

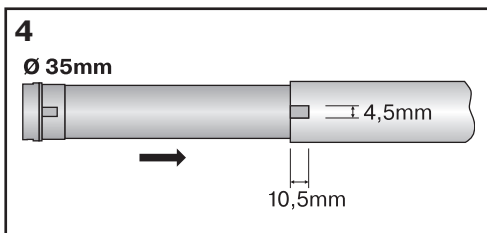
3) Tubes with shaped sections:

With some drive adaptors, groove widths tolerances in different barrels can be compensated for by turning the drive adaptor into another groove recess. These groove recesses have different dimensions and allow you to install the drive so that it fits exactly (Fig. 3).

3

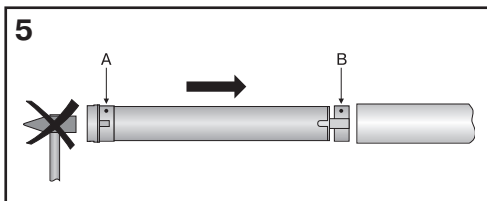


Assembly and Operating Instructions



4) Round tubes:

Release the tube at the motor end to allow the cam of the limit ring adapter to be slid into the tube. There must be no clearance between the cam of the limit ring adapter and the tube (Fig. 4). For limit ring adapters without locating cams the roller tube must be connected to the limit ring adapter using a 4.8 x 10 mm tapping screw.



5) Mount the drive using a suitable limit ring adaptor (A) and drive adaptor (B). Slide the drive with pre-mounted limit ring adaptor and drive adaptor into the tube into it connects positively. Ensure that the limit ring adaptor and drive adaptor are fitted into the tube securely (Fig. 5).

The drive adaptor of the tubular drive must be connected to the tube as follows:

Size of drive [mm]	Roller shutter tubes-Ø [mm]	Torque max. [Nm]	Fastening screws for drivers (4 x)
Ø 35	40 mm plastic drive adapter	13	flat-headed sheet-metal screw ST 4.8 x 10 DIN 7982

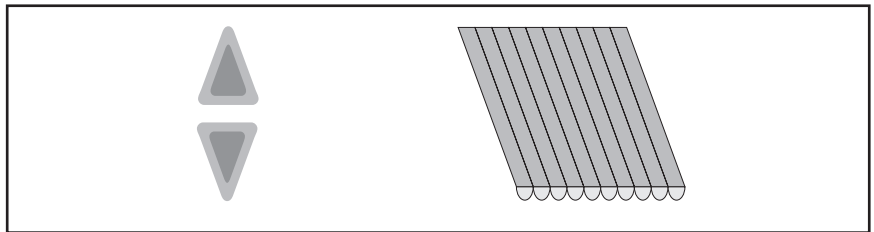
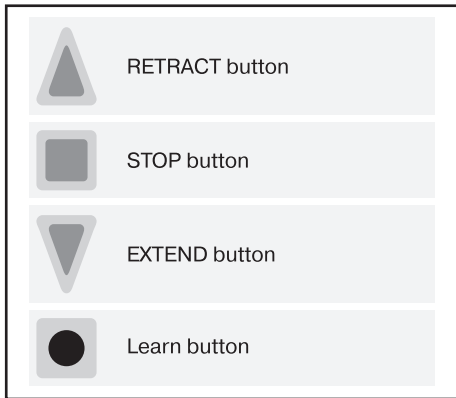
The drive manufacturer also recommends screwing the opposite end bracket to the barrel.



Attention!

When drilling the tube ensure that you never drill in the area around the tubular drive! When inserting the drive into the tube, do not drive it in or drop it into the tube! (Fig. 2 and 5)

When installing the sun shade system, always ensure that the motor connection cable and the antenna cannot be damaged or squashed when the system is in operation.

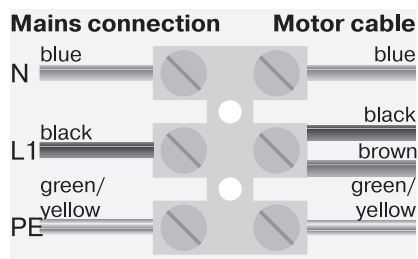


Action	Response
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1) Connecting the tubular drive

Connect the tubular drive to the power supply.

1) +2a)



2) Activating programming mode for tubular drive

2a) Activating programming mode for tubular drive by switching on power supply

Now switch on the power supply. The tubular drive will be in programming mode for 3 minutes.

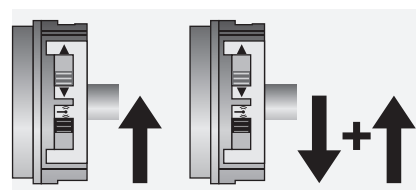


Note

If several tubular drives are to be operated in parallel, the programming mode for one tubular drive can be deactivated by sliding the radio switch into the outer position after the power has been switched on.

If the radio switch is already in this position, slide the switch back inwards and back to the outer position again.

2b)

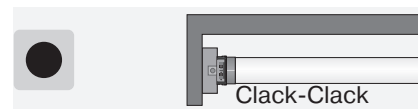


2b) Activating programming mode for tubular drive using the radio switch

Slide the radio switch into the inner position. If the radio switch is already in this position, slide the switch outwards and back to the inner position again.

The tubular drive goes into programming mode for 3 minutes.

3)



3) Programming the master transmitter



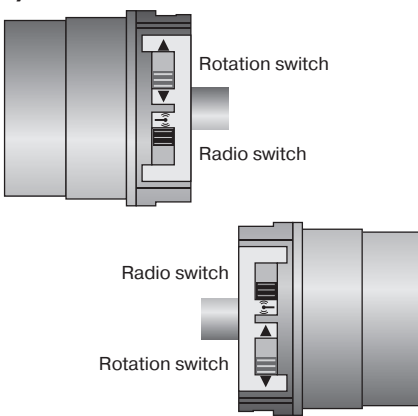
Note

Follow the instructions given in the operating manual for the transmitter. If a transmitter has already been programmed into the receiver, press and hold the programming button for 10 seconds.

Press the programming button for 3 seconds when the programming mode is activated.

The tubular drive makes a „clack-clack“ sound to confirm. The programming process is complete.

4)



4) Checking the rotation setting

Press the RETRACT or EXTEND button.

The curtain moves in the desired direction.

=> The rotation setting is OK.

If the curtain moves in the wrong direction, the rotation setting must be changed. Proceed as follows to do so: Slide the rotation switch into the opposite position.

The rotation setting has been changed. Recheck the rotation setting.

Setting the end limits

5) There are two ways to set the end limits:

- a) Extend curtain/canopy to desired position and retract to desired position with no end stop
- b) Extend curtain/canopy to desired position and retract to end stop

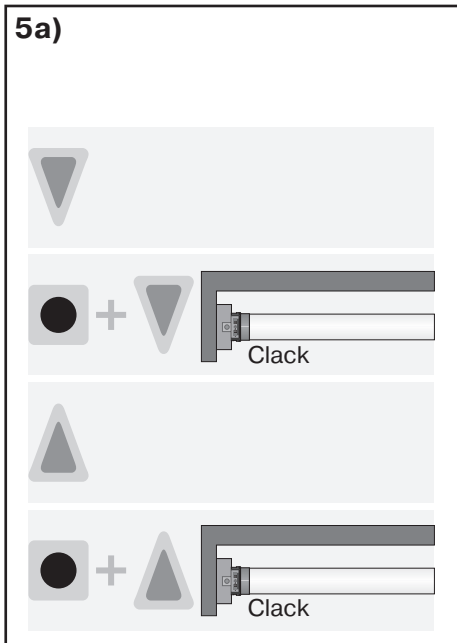
The final limit position becomes fixed, after the tubular drive has turned off automatically, in the desired position, three times.



Note

The end limits can only be set using the master transmitter. The rotation setting must be correct. When end limits are being set, the tubular drive remains in maintained command mode. The lower end limit must always be programmed first.

If, during extension or retraction, the tubular drive stops due to an obstruction, it is possible to extend or retract the curtain/canopy as necessary in order to move it away from the obstruction. The obstruction can then be removed and the curtain/canopy adjusted into the desired end limit position.



5a) Lower end limit to upper end limit with no end stop



Note

With this end limit setting there is no automatic curtain/canopy length adjustment.

Move the curtain/canopy to the desired lower end limit.

First press the programming button and, within 3 seconds, also press the EXTEND button and keep both buttons pressed.

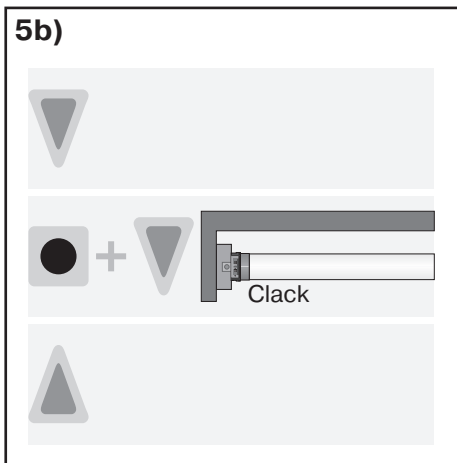
Then move to the desired upper end limit.

Now press the programming button and, within 3 seconds, the RETRACT button and keep both buttons pressed.

Response

The tubular drive makes a „clack“ sound to confirm.

The tubular drive makes a „clack“ sound to confirm.
The end limits are set.



5b) Lower end limit to end stop

Move the curtain/canopy into the desired lower end limit.

First press the programming button and, within 3 seconds, also press the EXTEND button and keep both buttons pressed.

Then move to the fixed end stop.

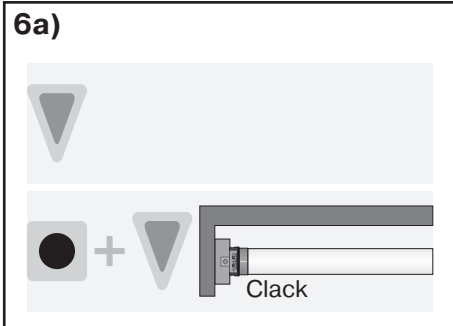
The tubular drive makes a „clack“ sound to confirm.

The tubular drive switches off automatically.
The end limits are set.

Action	Response
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6) Changing the end limit settings

 **Note**
End limit settings can only be changed using the master transmitter.

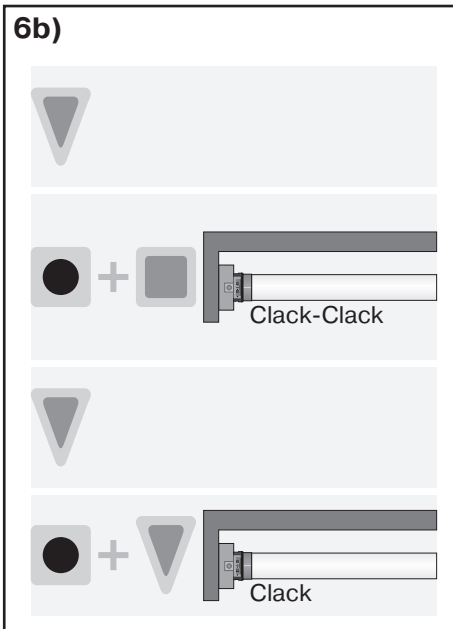


6a) Reducing the operating range (the desired end limit is within the possible operating range)

Move to the desired new end limit.

First press the programming button and, within 3 seconds, also press the EXTEND button for the lower end limit or the RETRACT button for the upper end limit and keep both buttons pressed.

The tubular drive makes a „clack“ sound to confirm.
The new end limit is stored.



6b) Increasing the operating range (the desired end limit is outside the possible operating range)

Move the curtain/canopy to the end limit of the direction in which you wish to increase the operating range.

First press the programming button and, within 3 seconds, also press the STOP button and keep both buttons pressed for 10 seconds.


The tubular drive makes a „clack-clack“ sound to confirm.
The end limit has been deleted.

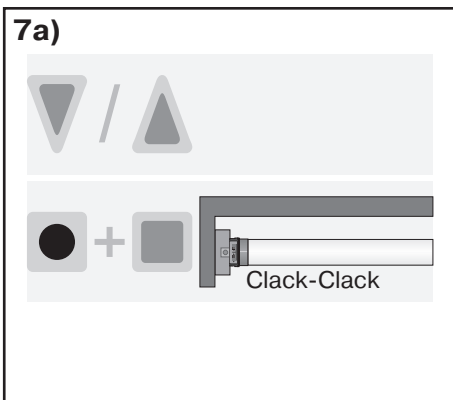
Move the curtain/canopy to the desired new end limit.

First press the programming button and, within 3 seconds, also press the EXTEND button for the lower end limit or the RETRACT button for the upper end limit and keep both buttons pressed.

The tubular drive makes a „clack“ sound to confirm.
The new end limit has been stored.

7) Deleting the end limits

 **Note**
The end limit settings can only be deleted using the master transmitter.



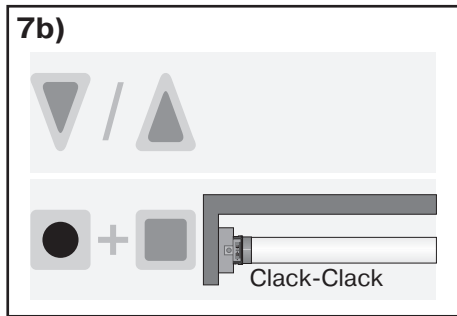
7a) Deleting the end limits individually

Move the curtain/canopy to the end limit to be deleted.

First press the programming button and, within 3 seconds, also press the STOP button and keep both buttons pressed for 10 seconds.

The tubular drive makes a „clack-clack“ sound to confirm.
The end limit has been deleted.

Assembly and Operating Instructions



Action

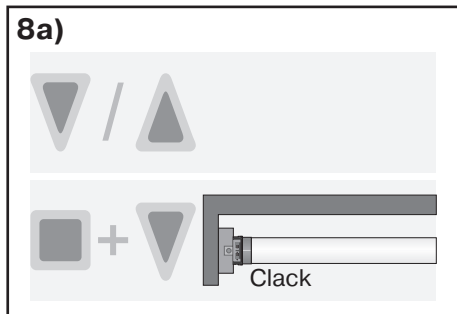
7b) Deleting both end limits

Move the curtain/canopy to any position between the two end limits.

First press the programming button and, within 3 seconds, also press the STOP button and keep both buttons pressed for 10 seconds.

Response

The tubular drive makes a „clack-clack“ sound to confirm. The end limits have been deleted.



8a) Setting intermediate position I

Move the curtain/canopy to the desired intermediate position I.

First press the STOP button and, within 3 seconds, also press the EXTEND button and keep both buttons pressed.

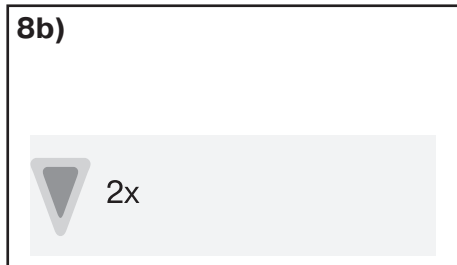
The tubular drive makes a „clack“ sound to confirm. Intermediate position I has been stored.

8) Intermediate position I in extend direction



Note

Intermediate position I is an intermediate position for the curtain/canopy and can be set at any given position between the upper and lower end limits. Intermediate position I can only be set if both end limits have already been set.



8b) Adjustment to intermediate position I

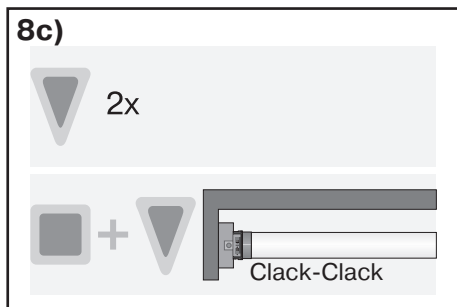


Note

The curtain/canopy moves to the intermediate position I from the upper end limit.

Press the EXTEND button twice within one second.

The curtain/canopy moves to intermediate position I.



8c) Deleting intermediate position I


Move the curtain/canopy to the desired intermediate position I.

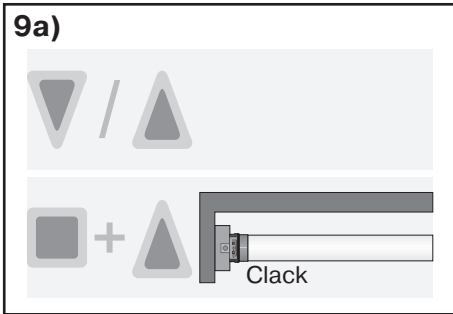
First press the STOP button and, within 3 seconds, also press the EXTEND button and keep both buttons pressed.

The tubular drive makes a „clack-clack“ sound to confirm. Intermediate position I has been deleted.

Action	Response
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9) Intermediate position II in retract direction

 **Note**
This function allows you to move the curtain/canopy from the lower end limit to intermediate position II. Intermediate position II can only be set if both end limits have already been set.



9a) Setting intermediate position II

Move the curtain/canopy to the desired intermediate position II.

First press the STOP button and, within 3 seconds, also press the RETRACT button and keep both buttons pressed. The tubular drive makes a „clack“

sound to confirm.

Intermediate position II has been stored.

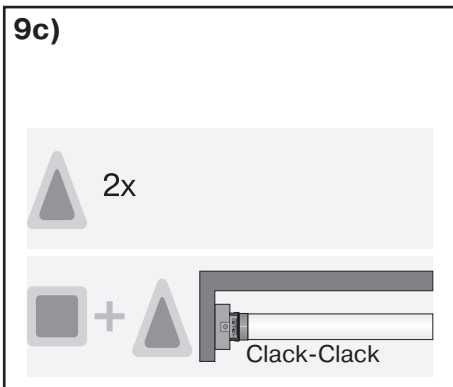
9b) Adjustment to intermediate




position II

Press the RETRACT button twice within one second.

The curtain/canopy moves to intermediate position II.



9c) Deleting intermediate position II

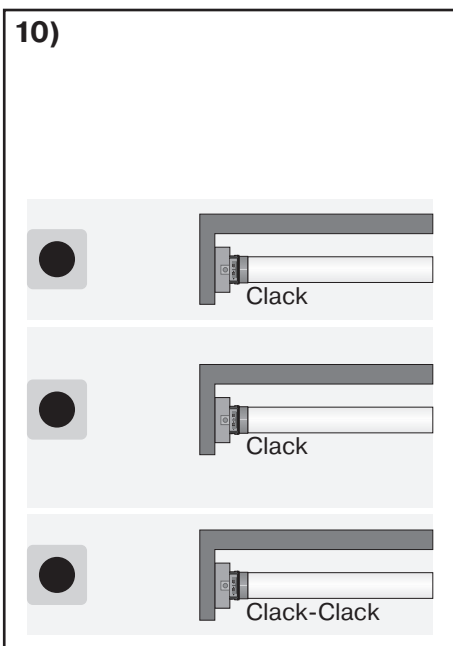
 **Note**
The curtain/canopy moves to intermediate position II from the lower end limit.

Move the curtain/canopy to the desired intermediate position II.


First press the STOP button and, within 3 seconds, also press the RETRACT button and keep both buttons pressed. The tubular drive makes a „clack-“

clack“ sound to confirm.

Intermediate position II has been deleted.



10) Programming additional transmitters

 **Note**
In addition to the master transmitter, up to 15 additional transmitters can be programmed in the tubular drive.
The end limits must be set prior to programming the radio sun- and wind sensor.

Press the programming button of the master transmitter programmed according to point (3) for 3 seconds.

The tubular drive makes a „clack“ sound to confirm.

Now press the programming button of a new transmitter which is not yet programmed in the tubular drive for 3 seconds. In doing so, the programming mode for the tubular drive is activated for a new transmitter for 3 minutes.

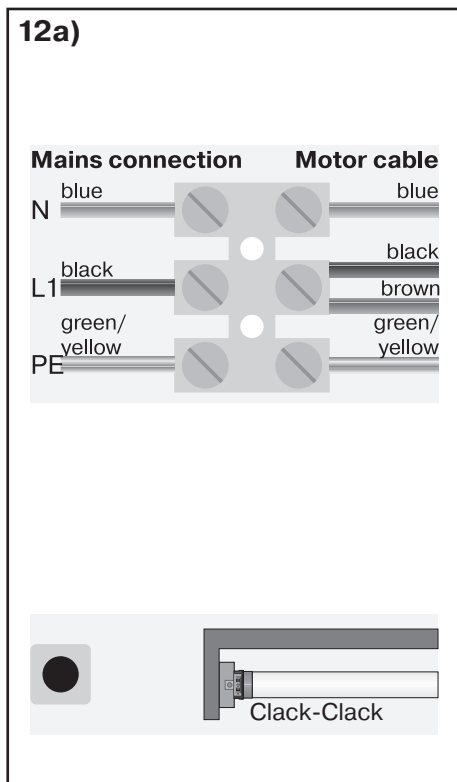
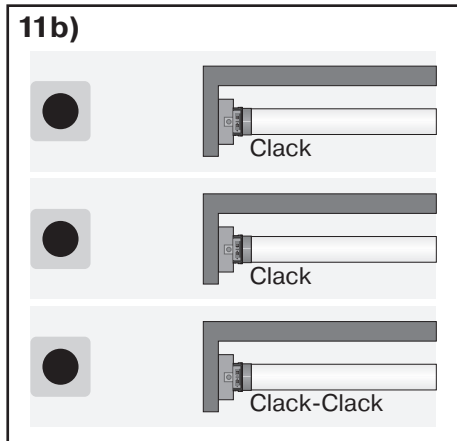
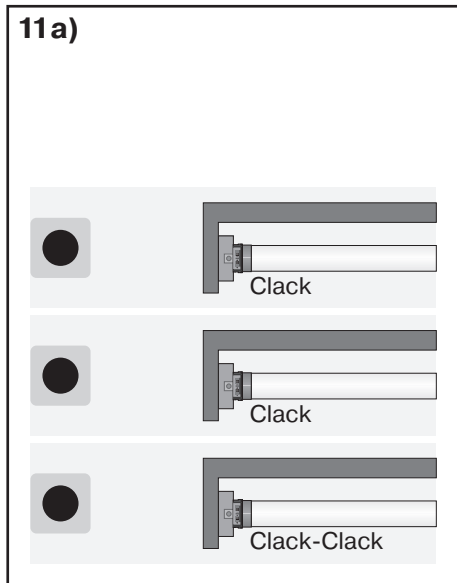
The tubular drive makes a „clack“ sound to confirm.

Now press the programming button of the new transmitter to be programmed once again for 3 seconds.

The tubular drive makes a „clack-clack“ sound to confirm.

The new transmitter has now been programmed in the drive.

Assembly and Operating Instructions



Action	Response
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11) Deleting transmitters

11a) Deleting transmitters individually

Note
The master transmitter which was programmed in the drive according to Point (3) cannot be deleted. It can only be overwritten (see Point 12).

Press the programming button on the master transmitter for 3 seconds. The tubular drive makes a „clack“ sound to confirm.

Now press the programming button of the transmitter to be deleted for 3 seconds. The tubular drive makes a „clack“ sound to confirm.

Then press the programming button of the transmitter to be deleted once again for 10 seconds. The tubular drive makes a „clack-clack“ sound to confirm. The transmitter has been deleted from the tubular drive.

11b) Deleting all transmitters (except master transmitter)

Press the programming button on the master transmitter for 3 seconds. The tubular drive makes a „clack“ sound to confirm.

Now press the programming button on the master transmitter once again for 3 seconds. The tubular drive makes a „clack“ sound to confirm.

Now press the programming button on the master transmitter once again for 10 seconds. The tubular drive makes a „clack-clack“ sound to confirm. All transmitters (except master transmitter) have been deleted from the receiver.

12) Overwriting master transmitter

There are two ways of overwriting the master transmitter:

- Put tubular drive into programming mode by switching on power supply
- Put tubular drive into programming mode using radio switch

12a) Putting tubular drive into programming mode by switching on power supply

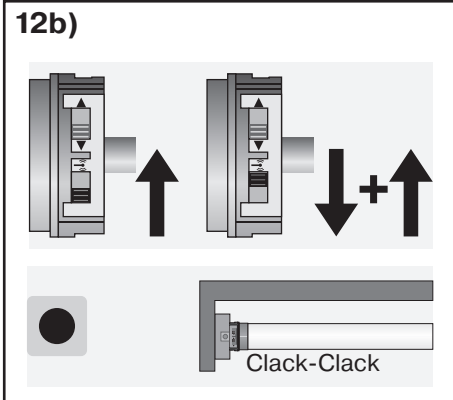
Switch off the power supply to the tubular drive and reconnect after 5 seconds. The tubular drive goes into programming mode for 3 minutes.

Note
To ensure that the new master transmitter is programmed in the desired tubular drive only, the programming mode for all other tubular drives which are connected to the same power supply must be deactivated. To do so, after the power supply has been switched back on, execute a command control (adjust or stop) with the transmitter of these tubular drives or move the radio switch from the inner to the outer position. If the radio switch is already in this position, slide the switch to the inner position and back to the outer position again.

Now press the programming button of the new master transmitter for 10 seconds. The tubular drive makes a „clack-clack“ sound to confirm. The new master transmitter has been programmed in and the old deleted.

Action

Response



12b) Putting the tubular drive into programming mode using the radio switch

Slide the radio switch into the inner position. If the radio switch is already in this position, slide it outwards and back to the inner position again.

The tubular drive goes into programming mode for 3 minutes.

Now press the programming button of the new master transmitter for 10 seconds.

The tubular drive makes a „clack-clack“ sound to confirm. The new master transmitter has been programmed in and the old deleted.

Technical Data

Type	P3/30PSF	P5/20PSF	P5/30PSF	P9/16PSF
Nominal torque (Nm)	3	5	5	9
Output speed (min ⁻¹)	30	20	30	16
Limit switch range	64 revolutions			
Mains voltage	230V/50Hz			
Power consumption (W)	85	115	115	110
Nominal current consumption (A)	0,36	0,47	0,47	0,47
Operating mode	S2 4 Min.			
Protection class	IP 44			
Min. tube diameter (mm)	37			
Frequency	868,3 MHz			

What should you do, if...?

Malfunction	Cause	Solution
Tubular drive is not running.	<ol style="list-style-type: none"> 1. No transmitter has been programmed. 2. Transmitter is outwith the range of the tubular drive. 3. Transmitter has been operated outwith the range several times. 4. Batteries in the transmitter have been incorrectly inserted, not inserted at all or are empty. 5. Faulty electrical connection. 6. Thermal cut-out function in the tubular drive has been activated. 	<ol style="list-style-type: none"> 1. Programme new transmitter. 2. Move transmitter into the range of the tubular drive. 3. Activate the control or stop button on the transmitter at least 5 times. 4. Insert batteries properly or replace batteries. 5. Check electrical connection. 6. Wait 5- 10 minutes.
You are unable to change the axle direction.	End limits are stored in the tubular drive.	Start up the tubular drive via a start command and deactivate with a stop command. Then delete the end limit settings using the programming and stop buttons.
The axle direction is incorrect after deleting the end limits.	The axle direction switch is in the wrong position.	Slide the axle direction switch to the opposite position.
Tubular drive has stopped at random and won't run in the given direction.	<ol style="list-style-type: none"> 1. Tubular drive has detected an assumed load. 2. Tubular drive is overloaded. 	<ol style="list-style-type: none"> 1. Run the drive briefly in the opposite direction, then activate the desired direction again. 2. Use a tubular drive with a greater torque.

Declaration of conformity

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35764 Sinn, Germany



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EC Declaration of Conformity in accordance with EC Machinery Directive 2006/42/EC

Document No./Month . Year: **K004/02.12**

We hereby declare that the following product series

Product designation: **Tubular motor with integrated radio receiver**
Type designation: **R8/17.F., R12/17.F., R20/17.F., R30/17.F., R40/17.F., R50/11.F.,
R40/17.F. (37Nm),
P3/30.F., P5/16.F., P5/20.F., P5/30.F., P9/16.F.,
L44/14.F., L50/17.F., L60/11.F., L60/17.F., L70/17.F., L80/11.F.,
L80/17.F., L120/11.F.**

From serial number: **from 120800001**

complies with the applicable regulations of the following Directives:

Machinery Directive (2006/42/EC)

R&TTE Directive (1999/5/EC)

Furthermore, the safety objectives of the **Low Voltage Directive 2006/95/EC** as per Appendix I No.1.5.1 of Directive 2006/42/EC have been met.


Applied harmonised standards:

EN 60335-1:2010	Household and similar electrical appliances – Safety
EN 60335-2-97:2010	Particular requirements for drives for rolling shutters, awnings, blinds and similar equipment
ETSI EN 301489-1:2011	Electromagnetic compatibility and radio spectrum matters (ERM) – electromagnetic compatibility for radio equipment and services Part 1: Common technical requirements
ETSI EN 301489-3:2002	Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz
EN 61000-6-3:2007	EMC – Emission standard for residential, commercial and light-industrial environments
EN 14202:2004	Blinds and shutters – Suitability for use of tubular and square motorizations – Requirements and test methods

Authorised party for the compilation of the technical documentation:
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This declaration of conformity was issued:

Sinn, *den 9.2.2012*
Place, Date


D. Fuchs, Management

This declaration certifies compliance with the Directives cited but does not represent any assurance of characteristics.

The safety warnings in the supplied product documentation must be observed!

