

P6-20, P10-11

Model: C28

en

Assembly and Operating Instructions

DC tubular drive with integrated radio receiver

Important information for:

• Fitters / • Electricians / • Users

Please forward accordingly!

These instructions must be kept safe for future reference.

2010 301 240 0e 19/02/2024

Becker-Antriebe GmbH
Friedrich-Ebert-Straße 2-4
35764 Sinn/Germany
info@becker-antriebe.com
www.becker-antriebe.com



BECKER
for you. forever.

Table of contents

General	3
Warranty	3
Safety instructions	4
Instructions for the user	4
Instructions for installation and commissioning	4
Intended use	6
Installation	6
Assembling the drive	6
Drive adapter safety catch	7
Assembling and disassembling the drive adapter with separate drive adapter safety catch	7
Mounting the drive in the tube	7
Mounting the solar panel	8
Assembling and commissioning the stick battery	9
Connection	10
Connection with optional accessories	10
First operation	11
Programming the master transmitter	11
Checking that the running direction is correct	11
Selecting roller shutter or screen operation	12
Intelligent installation management	12
Limit position status indicator	12
Setting the limit positions	12
Upper stop to lower stop	13
Upper point to lower point	13
Upper stop to lower point	13
Upper point to lower stop	13
Changing the set limit positions	14
Deleting the limit positions	14
Intermediate positions I + II	15
Programming additional transmitters	16
Deleting transmitters	16
Overwriting the master	17
Cleaning	17
Disposal	17
Maintenance	17
Technical data dia. 35	18
What to do if...?	19
Optional accessories	19
Declaration of conformity	20

General

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

- Optimised for roller shutter/screen applications
- Low noise development due to gentle start-up and stop function
- Individual, group and central radio control
- No need to run wires to a switch or relay control device
- Any combination of drive and transmitter possible
- Simple to set the limit positions with the transmitter
- Installation without stops possible (from upper point to lower point)
- Two freely selectable intermediate positions can be set
- Automatic detection of limit positions thanks to intelligent electronic system with stop systems
- Flexible radio grouping; can be altered at any time with no need to install/uninstall
- The limit positions do not have to be reset: Changes in the shading solution are accommodated automatically when using stop systems.
- Torque control in the up direction prevents damage to the roller shutter in the event of a frozen or blocked shutter
- Considerably reduced stop load, and thus considerably reduced shading solution load
- Smooth operation of the system and the drive increases the service life

Please follow these Assembly and Operating Instructions when installing and setting up the device.



The date of manufacture comes from the first four digits of the serial number.

The numbers 1 and 2 indicate the year and the numbers 3 and 4 indicate the calendar week.

Example: 34th calendar week in 2020

Ser. No.:	2034XXXXX
-----------	-----------

Explanation of pictograms

	CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in injury.
	ATTENTION	ATTENTION indicates measures that must be taken to avoid damage to property.
		Denotes user tips and other useful information.

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 may only be carried out with our prior approval and strictly 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 relevant current statutory, official and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product manufacture, installation and customer advice.

Safety instructions

The following safety instructions and warnings are intended to avert hazards and to prevent property damage and personal injury.

Instructions for the user

General information

- The drive must be disconnected from its power source during cleaning and maintenance and when replacing parts.
- All work, including maintenance and cleaning, on electrical installations as well as other system parts must always be performed by trained technicians, in particular qualified electricians.
- Children from the age of 8 years and persons with reduced physical, sensory or mental capabilities or lack of experience and/or knowledge may use these devices, provided they are supervised or have been instructed in the safe use of the device, and have understood the hazards involved. Children must not play with the device.
- Systems have to be checked regularly by authorised specialists for wear and damage.
- 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.
- Ensure that there is adequate clearance (at least 40 cm) between moving parts and adjacent objects.



Caution

Safety instructions for avoiding serious injuries.

- **Crushing or shearing points must be avoided or protected.**

Instructions for installation and commissioning

General information

- 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 applicable standards and regulations for electrical installation must be complied with.
- All work, including maintenance and cleaning, on electrical installations as well as other system parts must always be performed by trained technicians, in particular qualified electricians.
- 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 damage or injury arising from such actions.
- Position switch with OFF presetting within sight of the driven product, but away from moving parts, at a height of over 1.5 m. This must not be publicly accessible.
- Permanently mounted control devices must be positioned where they can be seen.
- 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.
- Hazardous moving parts of the drive must be installed at a height of over 2.5 m above floor level or any other surface from which the drive can be accessed.
- To ensure safe operation of the system after commissioning, the limit positions must be correctly set/programmed in.
- Drives with a H05VV-F connecting cable may only be used indoors.
- Drives with a H05RR-F, S05RN-F or 05RN-F connecting cable may be used both indoors and outdoors.
- 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.

- If the drive is used for shading solutions in a specially marked area (e.g., escape routes, hazard zones, safety areas), compliance with all applicable regulations and standards must be ensured.
- Once the drive has been installed, the fitter must mark the used tubular drive in the “Technical data” chapter and make a note of the installation position.



Caution

Safety instructions for avoiding serious injuries.

- 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.
- The drive should only be operated by safety extra-low voltage (SELV; see Technical data). This must be guaranteed by the control unit.
- When using doors, particularly the standard EN 12453 must be observed.
- Be careful when touching the tubular drive, as it heats up during operation for technical reasons.
- Before installation, shut down all lines and control devices that are not essential for operation.
- 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).
- If the mains connecting cable is damaged, it may only be replaced by the manufacturer. If the drive has a plug-in connecting cable, it must be replaced with the same type of mains connecting cable, which is available from the drive manufacturer.

Attention

Safety instructions for avoiding property damage.

- Ensure that there is adequate clearance between moving parts and adjacent objects.
- The drive must not be carried by the mains connecting cable.
- All latching connections and fastening screws on the brackets must be checked to ensure that they are secure.
- Ensure that nothing rubs against the tubular drive, such as shading solution attachments, screws, etc.
- The drive must be fitted horizontally.

Intended use

The type of tubular drive described in these instructions is intended solely for the operation of roller shutter/screen applications. This tubular drive is intended for use with a NiMH battery and a solar panel - see technical data.

When mounting connection parts on the drive dia. 35 mm PXX/XX, only use screws EJOT Delta PT 40x12 WN 5454 Torx (9900 000 545 4).

For awning applications, please only use the types of tubular drive specifically designed for this purpose.

This type of tubular drive is designed for use in single systems (one drive per barrel).

The tubular drive must not be used in potentially explosive areas.

The connecting cable is not suitable for transporting the drive. Always carry the drive by the housing tube.

Other applications, uses 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 and carry the risk of personal injury and property damage. The drive manufacturer does not accept liability for damages or injury arising from such actions.

Always observe the information in these instructions when operating or repairing the system. The drive manufacturer does not accept liability for damage or injury resulting from improper usage.

Installation

Assembling the drive

Attention

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.

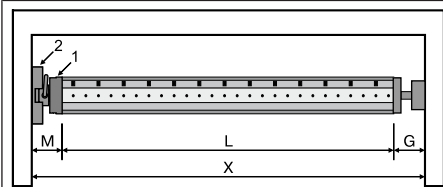
Prior to mounting, the fitter must ensure that the masonry and the system being motorised are sufficiently robust (drive torque plus weight of the shading solution).



Caution

Electrical connections may only be carried out by a qualified electrician. Prior to assembly, the power supply must be disconnected and secured. Please give the enclosed connection information to the responsible electrical contractor.

If you want the roller shutter curtain to open to the upper stop, proceed as follows: The roller shutter curtain must be prevented from being drawn into the shutter box with a mechanical stop or an angled end strip. With face-fixed elements, we recommend concealed stops in the guide tracks.



Calculate the space required at the side (M) by measuring the drive head (1) and wall bracket (2). The clear dimension of the box (X) minus the space required at the side (M) and idler (G) gives the length (L) of the barrel: $L = X - M - G$.

The space required at the side (M) varies depending on the combination of drive and wall bracket.

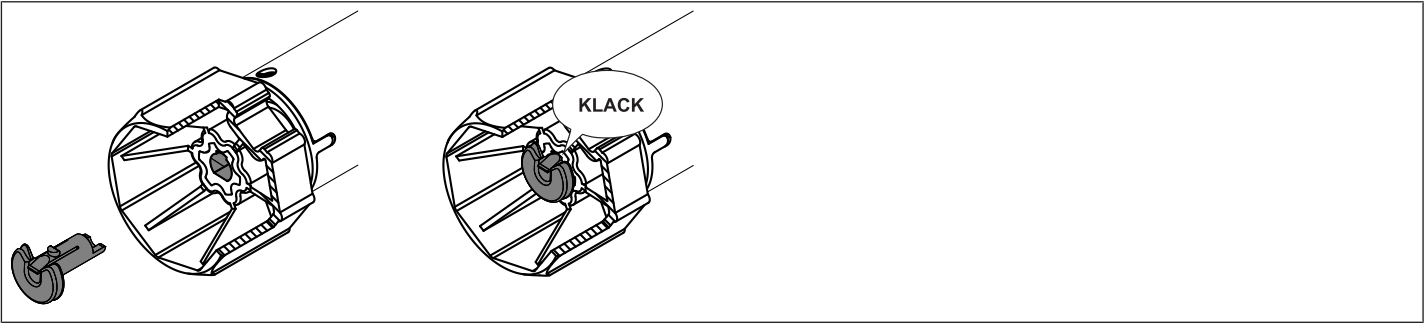
Then mount the wall bracket and idler. Ensure that the barrel is aligned at right angles to the wall and that sufficient axial play is allowed for the mounted system.

Attention

When using rigid shaft connectors, closed brackets must be fitted. The tubular drive presses the closed curtain down to make it difficult for people to reach under it or raise it. Only use curtains made of sufficiently strong material, such as aluminium, steel or wood. To prevent damage to the curtain it must run in guide tracks from top to bottom.

Drive adapter safety catch

Assembling and disassembling the drive adapter with separate drive adapter safety catch



Mounting the drive in the tube

For profile tubes:

In the case of some drive adapters, tolerances of the groove widths in different barrels can be offset by rotating the drive adapter into a different groove recess. These groove recesses have different sizes and allow the drive to fit exactly.

For round shafts:

Measure the lug of the thrust ring (X, Y). Then notch the tube on the motor side, so the lug of the thrust ring can also be pushed into the shaft. There must be no play between the lug of the thrust ring and the shaft.

To ensure secure torque transmission for **round shafts**, we recommend screwing the drive adapter to the shaft (see the table below).

Attention! When drilling into the barrel, never drill near the tubular drive!

Size of drive [mm]	Drive adapter	Torque max. [Nm]	Fastening screws (4 units)
dia. 35-dia. 45	All	Up to 50	Self-tapping screw dia. 4.8 x 9.5 mm

We also recommend screwing the idler to the barrel.

Attention

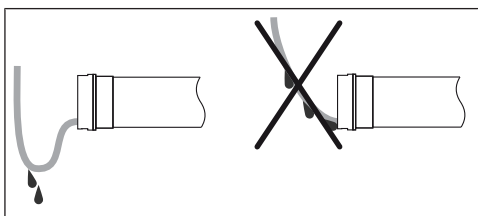
Do not hammer the tubular drive into the tube or drop it into the barrel!

Assemble the tubular drive with the relevant ring (1) and drive adapter (2). If the ring has several grooves, select the groove which is a perfect fit and push the ring (1) onto the thrust ring.

Insert the tubular drive with the pre-assembled ring (1) and drive adapter (2) into the tube to achieve a form fit. Ensure that the ring and drive adapter are secure in the tube.

Mount the assembled unit comprising barrel, tubular drive and idler on the box and secure the drive with a split or spring pin according to the type of wall bracket fixing.

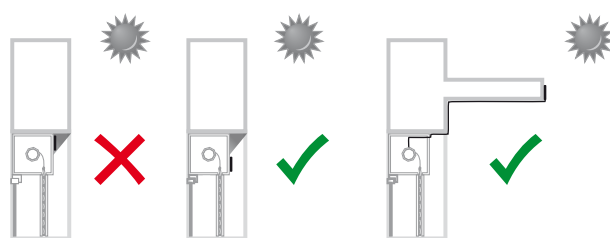
Position the barrel so that the roller shutter curtain can be attached with springs or fit the rigid shaft connectors in accordance with the manufacturer's instructions.

	<p>Lay the connecting cable</p> <p>Lay the connecting cable up to the tubular drive, and fix. The connecting cable and any antennae must not project into the winding chamber. Cover any sharp edges.</p>
---	--

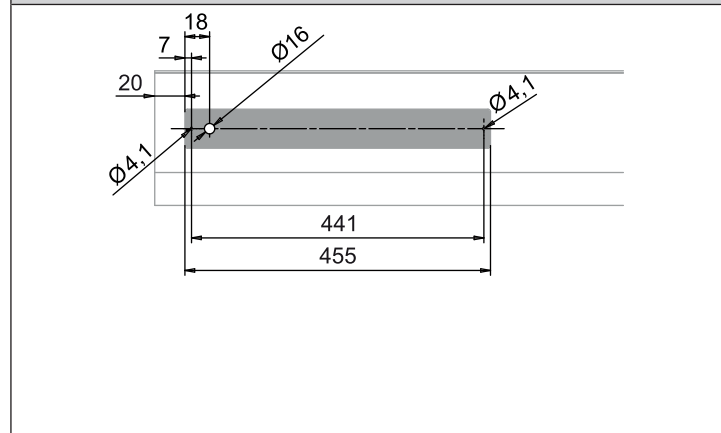
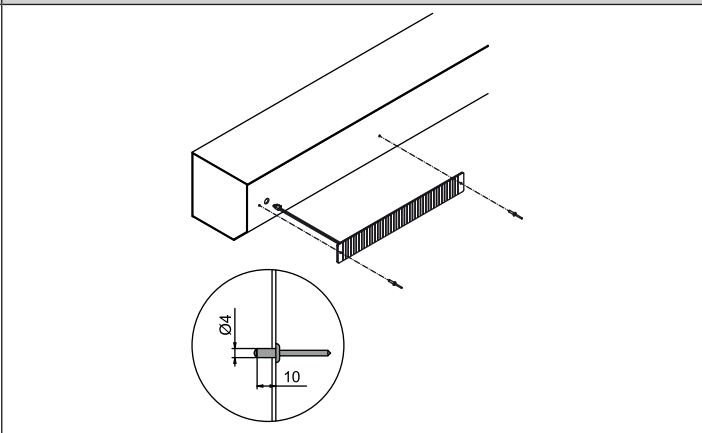
Mounting the solar panel

Attention

Never mount the solar panel behind glass. Ensure that the solar panel is shadow-free and clear of snow at all times and receives as much direct sunlight as possible. The optimal alignment for the solar panel is facing south with an inclination of approx. 30° relative to the horizontal. Do not exert pressure on the photovoltaic cells under any circumstances, as they can break very quickly. Position the connecting cable in such a way that it cannot be damaged by the roller shutter curtain.



Install the solar panel on the same side as the drive.

Drilling plan	Assembly
	

1. Drill the holes on the front of the front box element according to the drilling plan.
2. Now push the connecting cable of the solar panel through the hole with 16 mm diameter and into the front box element. Make sure that the edge protection is correctly positioned.
3. Now remove the carrier foil from the adhesive strips on the back of the solar panel.



Ensure that the point of adhesion is dry, clean and free from grease.

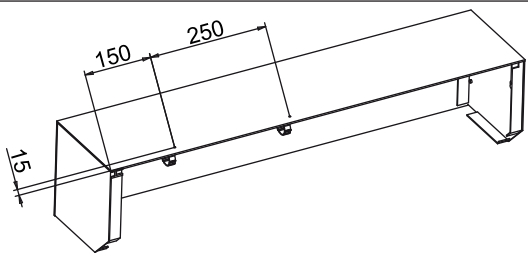
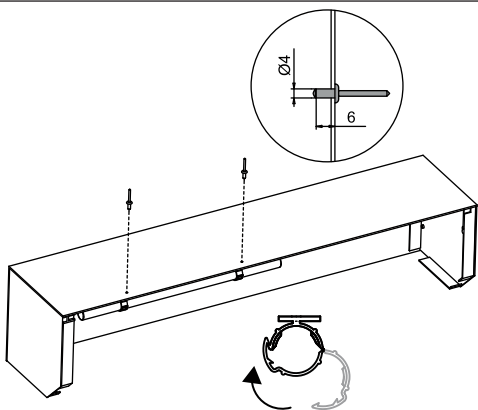
4. Place the solar panel on the front box element, precisely matching it to the holes for the aluminium rivets.
5. Now carefully rivet the solar panel and the front box element using the aluminium rivets provided (Ø 4 x 10 mm).

Assembling and commissioning the stick battery

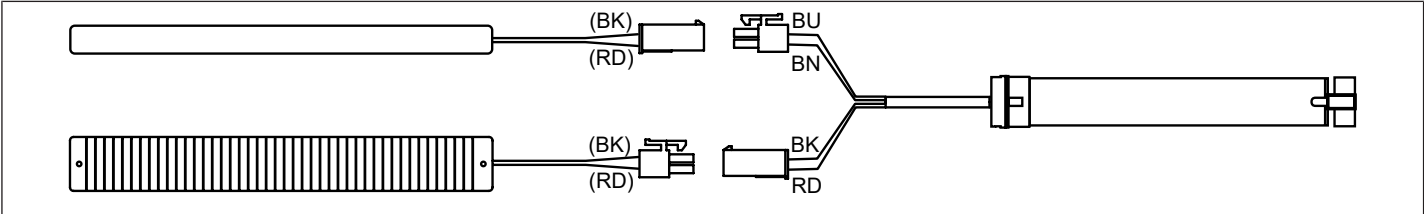
Attention

- Make sure that the stick battery including mounting does not touch the roller shutter curtain or screen.
- The stick battery must be fitted inside the box.
- When laying the cables and fitting the plug connections, make sure that they cannot be caught by the roller shutter curtain or screen.
- Always lay the connecting cable in an upward direction and with a drip loop.
- Deburr all holes.
- Do not open or drill into the stick battery.
- Do not throw the stick battery into a fire. Risk of explosion!
- Never immerse the stick battery in water.

We recommend charging the stick battery using the optionally available plug prior to assembly (see Connection with optional accessories [► 10]). Use the aluminium rivets provided ($\varnothing 4 \times 6$ mm) to assemble the stick battery above the barrel, on the same side as the drive.

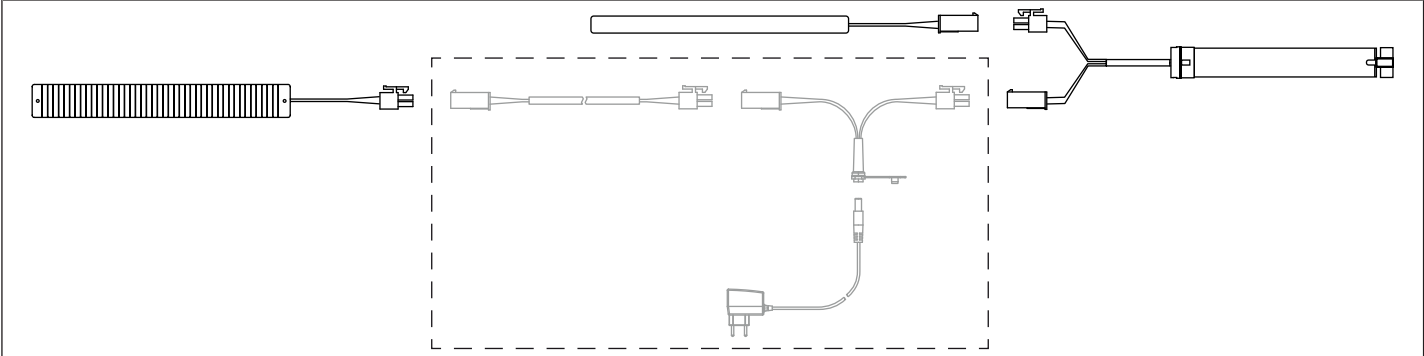
Drilling plan	Assembly
	

Connection



BN = Brown	+12V battery (RD)
BU = Blue	GND battery (BK)
RD = Red	+ solar panel (RD)
BK = Black	GND solar panel (BK)

Connection with optional accessories



---	Optional accessories
-----	----------------------

First operation

Explanation of symbols

▲	UP button
■	STOP button
▼	DOWN button
●	Programming button
Ⓜ...X	Receiver confirms once or multiple times by "shifting"

Readying the tubular drive for programming

Connect the battery and the solar panel to the tubular drive by connecting the plug.

- ▷ The tubular drive confirms once.
- ▶ The tubular drive is ready to program for 3 minutes.

Programming the master transmitter

● 3s	Ⓜ 2x	Press the programming button for 3 seconds when it is ready to programme. <ul style="list-style-type: none"> ▷ The tubular drive acknowledges. ▶ The programming process is now complete.
------	------	---



If a transmitter is already programmed on the receiver, press the programming button for 10 seconds.

Checking that the running direction is correct



The direction of rotation can only be changed if no limit position has been set.

Changing direction of rotation via master transmitter

Press the ▲ or ▼ button.

- ▷ The shading solution runs in the desired direction.
- ▶ The running direction is OK.


If the shading solution runs in the wrong direction, the running direction must be changed. Proceed as follows:

●+▲+▼ 3s	Ⓜ 3x	First, press the programming button, then within 3 seconds also press the ▲ and ▼ button for 3 seconds. <ul style="list-style-type: none"> ▶ The tubular drive confirms. Check the running direction again.
-------------	------	--



Selecting roller shutter or screen operation


Roller shutter operation (factory setting)



The sun thresholds are evaluated in roller shutter operation.

- Stop reduction at the upper limit position after the third approach
- Speed reduction before reaching the upper limit position
- Speed reduction before touching the end rail

Screen operation



The sun, wind and rain thresholds are evaluated in screen operation.

- Stop reduction at the upper limit position after the third approach
- Speed reduction before reaching the lower limit position

●+▲+■+▼ 10s		Press the programming button and also the ▲ button, the STOP button and the ▼ button for approximately 10 seconds. ► The tubular drive confirms.
	Ⓜ 1x	Roller shutter
	Ⓜ 2x	Screen
		The selection process is now complete.

Intelligent installation management


Completion of installation following automatic setting of limit positions

The drive saves the limit position permanently once the upper limit position is reached 3 times in succession. Installation is then complete. If the limit position is set above a point, this is stored permanently.

Limit position status indicator

A brief stopping and restarting indicates that no limit position has been set in that direction of movement.

Setting the limit positions



The limit positions can only be set with the master transmitter. The running direction must be correct. When setting the limit positions, the tubular drive runs in dead-man mode with the limit position status indicator. The upper limit position must always be set first. When setting the upper limit position, ensure that the roller shutter curtain is not pulled out of the guide tracks.

Attention

When using springs, a point must be set in the lower limit position.

There are several ways to set the limit positions:

- Upper stop to lower stop
- Upper point to lower point
- Upper stop to lower point
- Upper point to lower stop

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

Upper stop to lower stop

Attention

Fixed limit stops and rigid shaft connectors must be fitted for this limit position setting.

▲	Open to the permanent upper stop. ▷ The tubular drive switches off automatically.
▼	Then close to the permanent lower stop. ▷ The tubular drive switches off automatically. ► The limit positions are now set.

Upper point to lower point



There is no shading solution length adjustment with this limit position setting.

▲	Open to the desired upper limit position.
● + ▲	<div> <div>M</div> <div>1x</div> </div> Press the programming button and, within 3 seconds, also press the ▲ button and hold the two buttons down. ▷ The tubular drive confirms.
▼	Then close to the desired lower limit position.
● + ▼	<div> <div>M</div> <div>1x</div> </div> Press the programming button and, within 3 seconds, also press the ▼ button and hold the two buttons down. ▷ The tubular drive confirms. ► The limit positions are now set.

Upper stop to lower point

▲	Open to the permanent upper stop. ▷ The tubular drive switches off automatically.
▼	Then close to the desired lower limit position.
● + ▼	<div> <div>M</div> <div>1x</div> </div> Press the programming button and, within 3 seconds, also press the ▼ button and hold the two buttons down. ▷ The tubular drive confirms. ► The limit positions are now set.

Upper point to lower stop

Attention

Rigid shaft connectors must be fitted for this limit position setting.

▲	Open to the desired upper limit position.
● + ▲	<div> <div>M</div> <div>1x</div> </div> Press the programming button and, within 3 seconds, also press the ▲ button and hold the two buttons down. ▷ The tubular drive confirms.
▼	Then close to the permanent lower stop. ▷ The tubular drive switches off automatically. ► The limit positions are now set.



Changing the set limit positions



Once set, the limit positions can only be changed with the master transmitter.

1) Shortening the range of travel (the desired limit position is located inside the current range of travel)

▲ / ▼		Open/close to the desired new limit position.
● + ▲ or ● + ▼	(M) 1x	<p>First press and hold the programming button, then within 3 seconds also press and hold the ▼ button for the lower limit position, or the ▲ button for the upper limit position. Hold the two buttons down.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The new limit position is now saved.

2) Extending the range of travel (the desired limit position is located outside the current range of travel)

Attention

When both or individual limit positions are deleted, all the other set functions (intermediate position I, intermediate position II) are deleted as well.

▲ / ▼		Open/close to the limit position in the direction in which you wish to extend the range of travel.
● + ■ 10s	(M) 2x	<p>Press the programming button and, within the next 3 seconds, press the STOP button at the same time and hold the two buttons down for 10 seconds.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The limit position is now deleted.
▲ / ▼		Open/close to the desired new limit position.
● + ▲ or ● + ▼	(M) 1x	<p>First press and hold the programming button, then within 3 seconds also press and hold the ▼ button for the lower limit position, or the ▲ button for the upper limit position. Hold the two buttons down.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The new limit position is now saved.

Deleting the limit positions

Attention

When both or individual limit positions are deleted, all the other set functions (intermediate position I, intermediate position II,) are deleted as well.



Once set, the limit positions can only be deleted with the master transmitter. Deleted limit positions are displayed on the limit position status indicator.

Deleting individual limit positions

▲ / ▼		Open/close to the limit position to be deleted.
● + ■ 10s	(M) 2x	<p>Press the programming button and, within 3 seconds, also press the STOP button and hold the two buttons down for 10 seconds.</p> <ul style="list-style-type: none"> ▷ The tubular drive acknowledges. ▶ The limit position is now deleted.

Deleting both limit positions

▲ / ▼		Open/close the shading solution to a point between the limit positions.
● + ■ 10s	(M) 2x	<p>Press the programming button and, within 3 seconds, also press the STOP button and hold the two buttons down for 10 seconds.</p> <ul style="list-style-type: none"> ▷ The tubular drive acknowledges. ▶ The limit positions are now deleted.

Intermediate positions I + II



The intermediate positions I + II are freely selectable positions for the shading solution between the two limit positions. Each travel button can be assigned one intermediate position. Both limit positions must be set before an intermediate position is set.

Setting/modifying the desired intermediate position

▲ / ▼		Open/close the shading solution to the desired intermediate position.
■ + ▲ or ■ + ▼	(M) 1x	<p>Press the STOP button and, within 3 seconds, also press the desired travel button and hold the two buttons down.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The intermediate position is now saved.

Travelling to the desired intermediate position

2x ▲ or 2x ▼		<p>Press the travel button for the desired intermediate position twice within one second.</p> <ul style="list-style-type: none"> ▶ The curtain runs to the intermediate position assigned to the travel button.
--------------------	--	--

Deleting the desired intermediate position

2x ▲ or 2x ▼		Move the shading solution to the intermediate position that is to be deleted.
■ + ▲ or ■ + ▼	(M) 2x	<p>Now press the STOP button and, within 3 seconds, also press the travel button assigned to the intermediate position and hold the two buttons down.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The intermediate position is now deleted.

Deleting the intermediate positions

▲ / ▼		Open/close the shading solution to a point between the limit positions.
■ + ■ 10s	(M) 2x	<p>Press the STOP button twice within one second, and hold down for 10 seconds.</p> <ul style="list-style-type: none"> ▷ The tubular drive confirms. ▶ The intermediate positions have now been deleted.

Programming additional transmitters



In addition to the master transmitter, up to 15 further transmitters can be programmed in the tubular drive.

● 3s	(M) 1x	Press the programming button of the master transmitter for 3 seconds. ▷ The tubular drive acknowledges.
● 3s	(M) 1x	Now press the programming button of a new transmitter which has not yet been programmed in the tubular drive for 3 seconds. Doing so activates the programming mode of the tubular drive for a new transmitter for 3 minutes. ▷ The tubular drive acknowledges.
● 3s	(M) 2x	Now press the programming button of the new transmitter you wish to program again for 3 seconds. ▷ The tubular drive acknowledges. ► The new transmitter has now been programmed.

Deleting transmitters

Deleting individual transmitters



The programmed master transmitter cannot be deleted. It can only be overwritten (see Programming the master transmitter [► 11]).

● 3s	(M) 1x	Press the programming button on the master transmitter for 3 seconds. ▷ The tubular drive acknowledges.
● 3s	(M) 1x	Now press the programming button of the transmitter to be deleted for 3 seconds. ▷ The tubular drive acknowledges.
● 10s	(M) 2x	Then press the programming button of the transmitter to be deleted again for 10 seconds. ▷ The tubular drive acknowledges. ► The transmitter is now deleted from the tubular drive.

Deleting all transmitters (except the master transmitter)

● 3s	(M) 1x	Press the programming button on the master transmitter for 3 seconds. ▷ The tubular drive acknowledges.
● 3s	(M) 1x	Re-press the programming button on the master transmitter for 3 seconds. ▷ The tubular drive acknowledges.
● 10s	(M) 2x	Re-press the programming button on the master transmitter for 10 seconds. ▷ The tubular drive acknowledges. ► All transmitters (except the master transmitter) are now deleted from the receiver.

Overwriting the master

There are multiple ways to overwrite the master:

- Ready the tubular drive for programming by switching on the power
- Ready the tubular drive for programming using a programmed transmitter

Readying the tubular drive for programming by switching on the power

i To ensure that the new master transmitter is programmed in the desired tubular drive only, all other tubular drives which are connected to the same power supply must be deactivated from the programming mode. To do so, after switching back on the power, execute a drive or stop command using the transmitter for the given tubular drives.

Disconnect the battery from the tubular drive. After 5 seconds, reconnect the battery and the tubular drive.

- ▷ The tubular drive confirms once.
- ▷ The tubular drive is ready to program for 3 minutes.

● 10s	(M) 2x	Now press the programming button of the new master transmitter for 10 seconds. <ul style="list-style-type: none">▷ The tubular drive confirms.▶ The new master transmitter has now been programmed and the old master transmitter overwritten.
-------	--------	---

Readying the tubular drive for programming using a programmed transmitter

● 10s	(M) 1x	Press the programming button on a programmed transmitter (not the master transmitter) for 10 seconds. <ul style="list-style-type: none">▷ The tubular drive confirms.
● 10s	(M) 2x	Now press the programming button of the new master transmitter for 10 seconds. <ul style="list-style-type: none">▷ The tubular drive confirms.▶ The new master transmitter has now been programmed and the old master transmitter overwritten.

Cleaning

Only clean the solar panel with a suitable cloth. Do not use aggressive cleaning agents that may damage the surface.

Disposal



The crossed-out bin symbol on the product indicates that the device is subject to mandatory disposal separate from household waste. This product must be handed over to a collection point for electrical and electronic equipment at the end of its service life. The packaging material must be disposed of properly.

Maintenance

These drives are maintenance-free.

We recommend cleaning the solar panel at regular intervals but at least once a year.

Technical data dia. 35

Tubular drive	P6-20	P10-11
Model	C28	
Type	G PRF+ V1	
Rated torque [Nm]	6	10
Output speed [rpm]	20	11
Limit switch range	64 revolutions	
Supply voltage	12 V DC	
Connected load [W]	30	
Rated current consumption [A]	2.5	
Operating mode	S2 8 min.	
Degree of protection	IP 44	
Min. tube inside diameter [mm]	37	
Frequency	868.3 MHz	
Emission sound pressure level [dB(A)]	≤ 70	

Solar panel	
Rated voltage	18.7 V DC
P _{mpp} min. [W]	3.20
I _{mpp} max. [mA]	173
Permissible ambient temperature	-25°C - +55°C
Degree of protection	IP X4
Dimensions L x W x H [mm] without cable	455 x 60 x 6
Cable length [mm]	500

Battery	
Type	NiMH
Rated voltage	12 V DC
Capacity [mAh]	2200
Ambient operating temperature	-20°C - +60°C
Degree of protection	IP 44
Dimensions L x W x H [mm] without cable	430 x 26.5 x 23.5
Cable length [mm]	300

What to do if...?

Problem	Remedy
Tubular drive does not move.	Program new transmitter.
	Bring transmitter within range of the tubular drive.
	Press drive or stop button on transmitter at least five times in the immediate vicinity of the tubular drive.
	Insert battery/batteries correctly in the transmitter or insert new battery/batteries.
	Check electrical connection.
	Thermal protection switch in tubular drive has tripped. Wait until the thermal protection switch in the tubular drive is reactivated.
Tubular drive stops arbitrarily; cannot be restarted in the same direction.	Tubular drive has detected an increase in load. Briefly run the curtain in the opposite direction, then continue in the desired direction.
	Tubular drive is overloaded. Use a higher-torque tubular drive.
	Delete limit positions, then reprogram limit positions.
The roller shutter curtain is raised unevenly or not at all.	Stops have broken off or one or several attachments are broken. Repair system; delete limit positions, then reprogram limit positions.
Tubular drive no longer moves to the lower limit position independently.	Manually charge battery.
Tubular drive only moves by a few cm and then stops following a DOWN command.	
Tubular drive stops multiple times following an UP command.	

Optional accessories

Item no.	Designation
4034 200 265 0	Plug-in power supply
4034 200 264 0	Y-cable for external charging
4822 200 298 0	Extension cable 1.5 m



Declaration of conformity

BECKER-ANTRIEBE GMBH
Friedrich-Ebert-Str. 2 – 4
35764 Sinn, Germany



BECKER

- Original -

EU Declaration of Conformity

Document No.: **5100 310 107 0**

We hereby declare that the following product series

Product designation: **Tubular motor**
Type designation: **P4/20..., P6/20..., P10/11..**
Version: **G, P, R, F, +, A0...z9**
From serial number: **from 233900001**

complies with the applicable regulations of the following Directives:

Directive 2006/42/EC (MD) L157, 09.06.2006
Directive 2014/53/EU (RED) L153, 22.05.2014
Directive 2011/65/EU (RoHS) L174, 01.07.2011

Furthermore, the safety objectives of the **Low Voltage Directive 2014/35/EU** as per Appendix I No.1.5.1 of Directive 2006/42/EC have been met.

Applied standards:

DIN EN 60335-1:2020
DIN EN 60335-2-97:2017
EN 61000-6-3:2022
ETSI EN 301489-3:2019
EN 14202:2004

Authorised party for the compilation of the technical documentation:
Becker-Antriebe GmbH, Friedrich-Ebert-Str. 2 – 4, 35764 Sinn, Germany

This declaration of conformity was issued:

Sinn, 19.09.2023
Place, Date



Maik Wiegmann, Managing Director

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!

CE Antriebe C DC_ 5100 310 107 0- _en

For UK-Markets:

The Declaration of Conformity can be provided upon request from Becker Motors Ltd., or can be downloaded on www.beckermotors.co.uk.

UK
CA



BECKER
for you. forever.