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The **BECKER SERVICE** APP

The **LATEST** generation of roller shutter drives

EVO 20 R (BT)

Installation manual

Drives and control units for roller shutters and sun protection systems

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Together it´s easier.

Using the installation manual

The installation manual describes the commissioning of Becker tubular drives for roller shutters and sun protection systems as well as the commissioning of specific Becker control units.

This manual is intended for technicians who have been trained by Becker-Antriebe GmbH.

It is essential that you follow the safety instructions for the installation and commissioning of tubular drives and control units on pages 164-165 at the end of the installation manual. Failure to observe these instructions can lead to serious injuries.

The installation manual does **not** replace the Assembly and Operating Instructions supplied with Becker products.

Always observe the information in the installation manual as well as the Assembly and Operating Instructions supplied with the product when operating or repairing the system. Becker-Antriebe does not accept liability for damage or injury resulting from improper use.

Subject to technical changes without notice.

Contents

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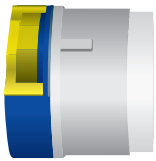
Roller shutter drive types

Type M:
Drive with mechanical limit switching

Type R(+):
(1997-2009)
Drive with electronic limit switching and sensitive obstruction detection



Type Pico R+:
(1999-2007)
Drive with electronic limit switching for the mini tube

Type RF(+):
(2000-2002)
Drive with radio receiver (40 MHz) and sensitive obstacle detection

Type PRF+:
(from 2003)
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Type PR+:
(from 2005)
Drive with electronic limit switching and point to point programming

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(from 2009)
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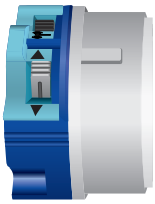
(from 2009)
Drive with Centronic radio receiver (868.3 MHz), point to point programming and sensitive obstacle detection

Type RO(+):
(from 2010)

Drive with electronic limit switching and sensitive obstacle detection



Type B01:
(from 2012)

Drive with B-Tronic radio receiver (868.3 MHz), point to point programming and sensitive obstacle detection

Type C01:
(from 2013)

Drive with Centronic radio receiver (868.3 MHz), point to point programming and sensitive obstacle detection

Type E01:
(from 2014)

Drive with electronic limit switching, point to point programming and sensitive obstacle detection with reversal

Type E03:
(from 2016)

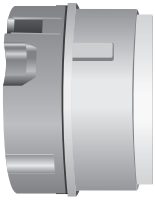
Drive with electronic limit switching, point to point programming and sensitive obstacle detection

Type E02:
(from 2016)

Drive with electronic limit switching and sensitive obstacle detection (functions same as RO+)

Type E14:
(from 2017)

Drive with electronic limit switching and point to point programming



Type EVO 20 R:
(from 2018)

Latest generation drive with speed control point to point programming and sensitive obstacle detection with reversal

Which type of roller shutter drive has been installed?

The limit positions of the latest generation of drives with electronic limit switching can be deleted and reset via the existing operator control. To do this, proceed as follows:

First, run the drive for 6 seconds in the UP or DOWN direction.

Then perform the travel movements described opposite to delete the limit positions. If the drive then clicks twice, it is one of the following types: RO+, E01, E02, E03 or E14. If the drive carries out an upward and downward movement rather than clicking, it is a type EVO 20 R.

Then reprogram the upper and lower limit positions in the order described beside. The drive clicks once to confirm the programming action.

If the drive does not confirm by clicking once, it is an E02 type or RO+ type drive.

If the drive stops sensitively when encountering an obstruction when moving downwards, it is an E01 type drive.

If the drive stops without reversing, it is an E03 type drive.

If the drive reacts insensitively to the obstruction, it is an E14 type drive.

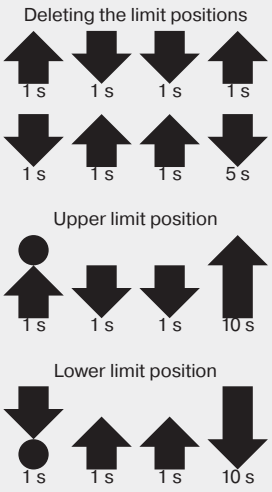
All other drives can be identified via the programming unit. Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.

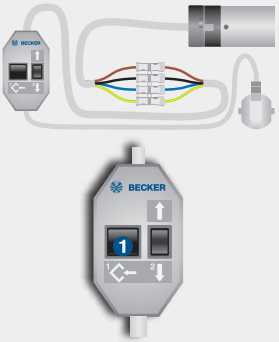
Press the programming button ❶ for 2 seconds.

If the drive produces a loud noise and the tube does not turn, the drive is a type M. Replace the programming unit immediately with one that is suitable for an M drive.

If the drive clicks twice, an R(+) type or PicoR+ type drive is installed.

If the drive clicks once or does not react, it is an RP(+), RO+, PR+, RF(+) PRF+, PROF+ or B01 drive type.





Turn the drive roughly 3 revolutions then press the programming button again for 2 seconds (the drive clicks again to indicate that a second limit position has been set). Turn the drive roughly 1.5 revolutions in the opposite direction and carry out the deletion sequence:

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ gain until the drive clicks twice

If the drive does not respond, then drives with the integrated radio receiver of type RF(+) (up to 2002), type PRF+ (2003-2009), type PROF+ (from 2009), C01 (from 2013) or type B01 (from 2012) with bidirectional radio have been installed. The drive type can be identified by programming the corresponding hand-held transmitter.

If the drive clicks twice, it is an RP(+), RO(+) or PR+ drive type.

Press the programming button ❶ again.

If the drive clicks twice again, it is an RO(+) (from 2010 onwards).

If the drive clicks once, it is a RP(+) or PR+ drive. You have now programmed a limit position. Turn the drive 3 revolutions from the limit position.

If the drive runs without stopping, it is a PR+ (from 2003 onwards) drive.

If the drive stops and continues running, it is a RP(+) (from 2009) drive.

Type plate

❶ Type designation: e.g. R 8/17 C M

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
8/17	Rated torque/output speed
C	Pluggable connecting cable
M	Mechanical limit switching

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

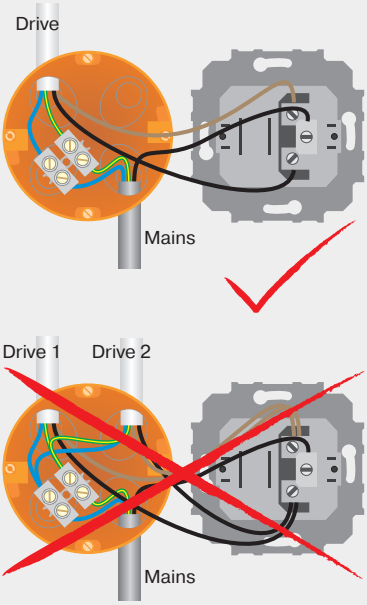
❸ Serial number: e.g. 08 40 961630

08	Year 2008
40	Calendar week
961630	Consecutive number

Wiring

Drives with mechanical limit switching must not be connected in parallel to a control point. Discharge of the capacitor could damage the limit switches. This would cause the limit positions to be “overrun”.

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

Before installation, make sure that the drive adapter safety catch has engaged (is screwed tight).

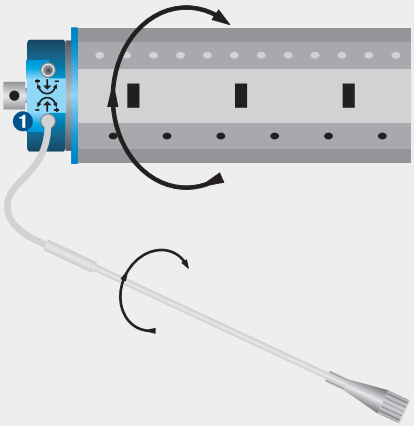
Mark the position of the drive adapter on the tube and drill a 4-mm hole at this point.

Secure the drive adapter against axial displacement in the tube using a screw or a rivet.

The arrow on the drive head indicates the direction of rotation ❶. The limit position is set on the corresponding adjuster, for example, with the flexible setting tool (item no. 4933 200 002 0).

Turning in the + direction increases the range; turning in the - direction reduces it.

The barrel may not be turned more than 38 revolutions in one direction.



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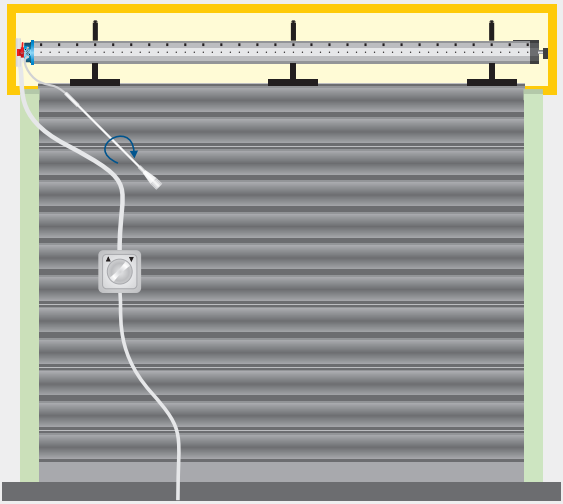
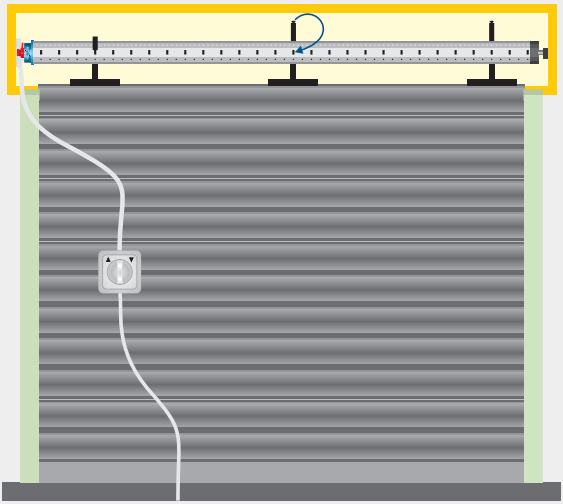
Setting the limit positions

1. Setting the lower limit position

After the tube is installed, run the drive downwards until it switches off automatically. Using the flexible setting tool, turn the corresponding adjuster in the + direction (clockwise) until the tube is in a suitable position for connecting the roller shutter to the tube.



Switch off the DOWN direction and connect the roller shutters to the tube (mount the springs).

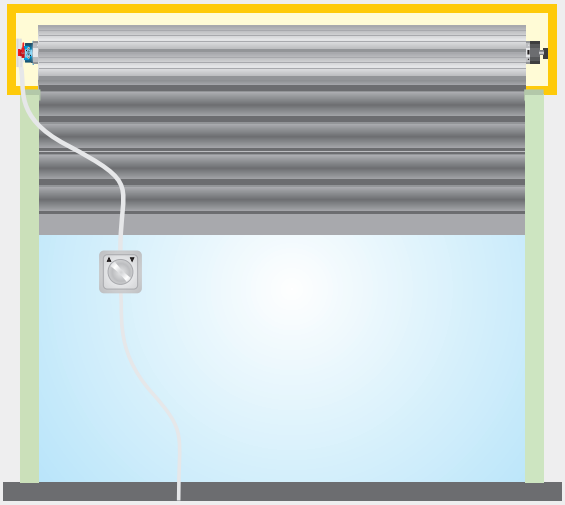


2. Setting the upper limit position

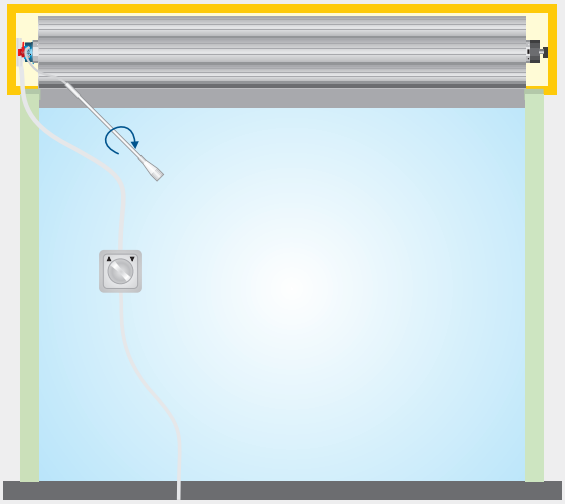
Run the roller shutter upwards until the drive switches off automatically via the limit switch for the upper limit position.

Note: When delivered (from the factory), the limit switch range is preset to 2 revolutions in the UP and DOWN directions.

While the shutter is opening, the drive switches off after 4-5 revolutions.



Turn the corresponding adjuster in the + direction (clockwise) until the roller shutter is in the upper limit position.



Type plate

❶ Type designation: e.g. R4-M17

R	Size of drive (tube diameter) R - 45mm
4	Rated torque (4 Nm)
M	Mechanical limit switching
17	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off

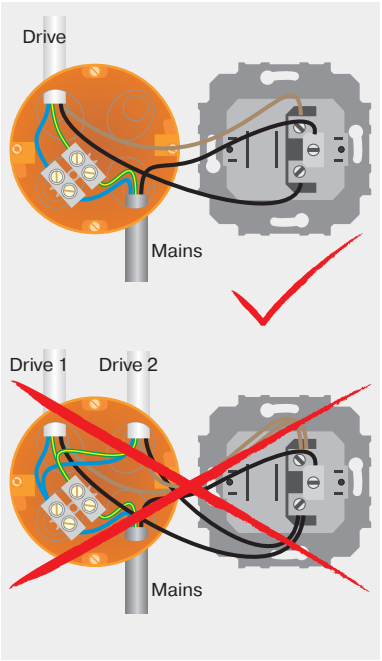
❸ Serial number: e.g. 15 49 60520

15	Year 2015
49	Calendar week
60520	Consecutive number

Wiring

Drives with mechanical limit switching must not be connected in parallel to a control point. Discharge of the capacitor could damage the microswitches.

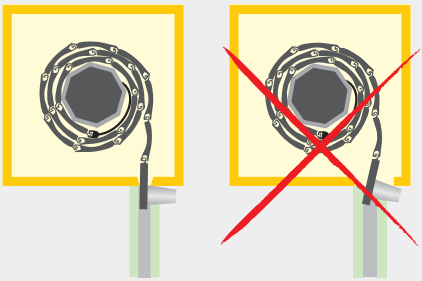
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



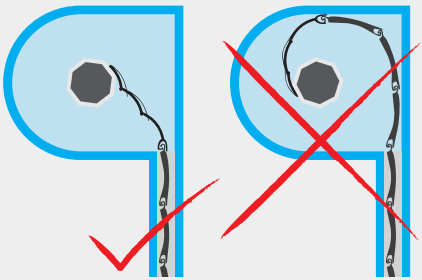
Information

M17 drives with mechanical limit switching detect both limit positions automatically.

In order for the drive to detect the upper limit position, a defined stop must be present (angled strip or mechanical stop).



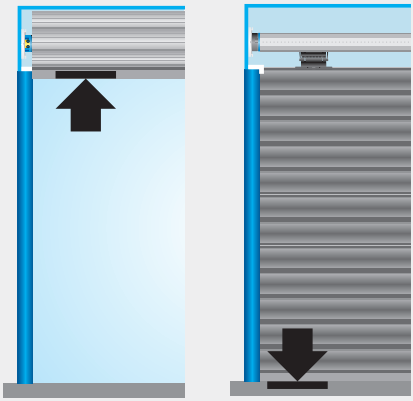
To detect the lower limit position, fixed shaft connectors must be installed. In this case, the fixed shaft connectors must snap into place and the roller shutters must be pressing down on the window ledge.



The upper limit position is automatically detected due to the increase in torque when the stopper makes contact, the angled end strip or the concealed stops.

The lower limit position is detected automatically due to the increase in torque when the fixed shaft connector snaps into place.

No installation runs or programming operations are required.



Type plate

❶ **Type designation: e.g. P 9/16 R+**

P	Size of drive (tube diameter) P - 35mm
9/16	Rated torque/output speed
R	Electronic limit switching for roller shutters
+	Suitable for anti-lifting device

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

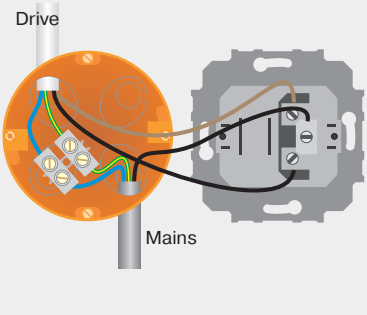
❸ **Serial number: e.g. 03 28 56789**

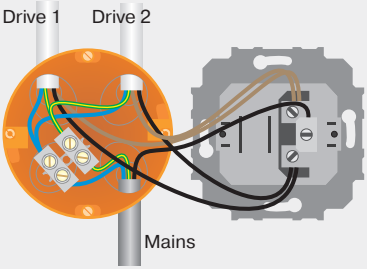
03	Year 2003
28	Calendar week
56789	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.

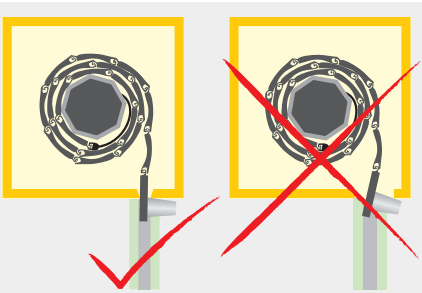




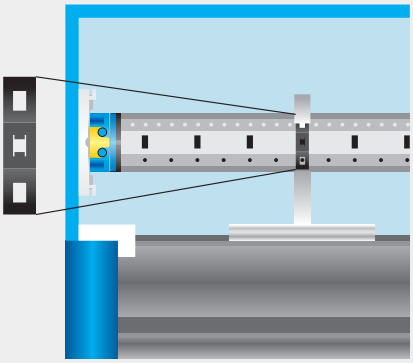
Information

PicoR+ drives with electronic limit switching detect and program the upper limit position automatically.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



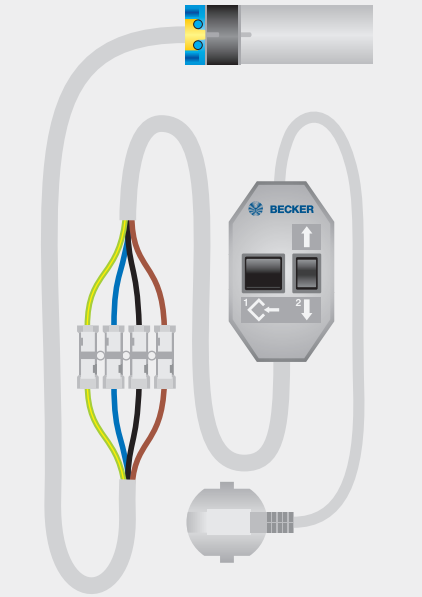
The springs are attached to the mini tube using tube clamps. This stops the springs from rubbing against the drive.



The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.

Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



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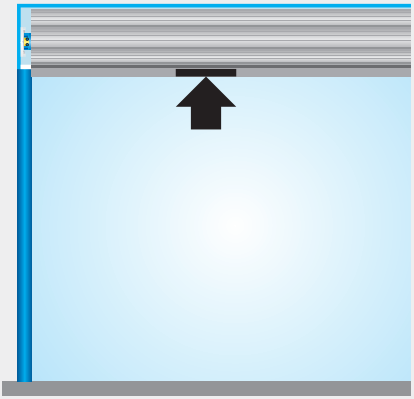
Programming the limit positions

1. Programming the upper limit position

First, run the roller shutter towards the upper limit position until the drive switches off automatically.

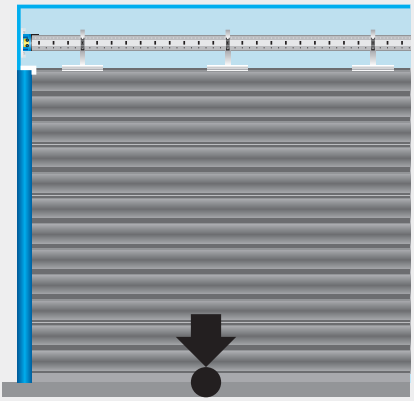
Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After resetting (deletion of the limit positions), the drive is restarted until it reaches the upper limit position.



2. Programming the lower limit position

Now run the roller shutter to the desired lower limit position.

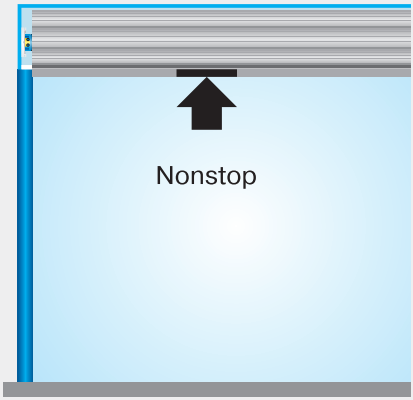
(If anti-lifting devices or rigid safety springs are installed, run the roller shutter downwards until the drive stops automatically.)



3. Programming the travelling distance

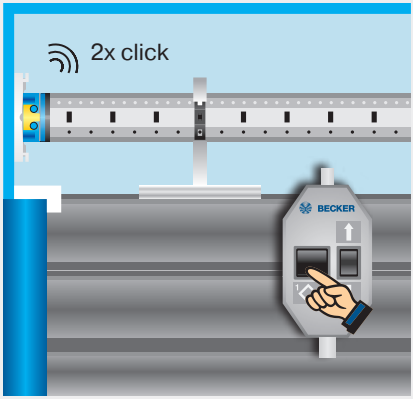
Run the roller shutter towards the upper limit position again, without stopping, until the drive switches off automatically.

This time, the drive learns the distance between the limit positions and automatically concludes the programming phase.



4. Deleting the limit positions using the programming unit

Press the programming button until the drive clicks twice.



Type plate

❶ **Type designation: e.g. R 8/17 R+**

R	Size of drive (tube diameter) R - 45mm
8/17	Rated torque/output speed
R	Electronic limit switching for roller shutters
+	Suitable for anti-lifting device

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

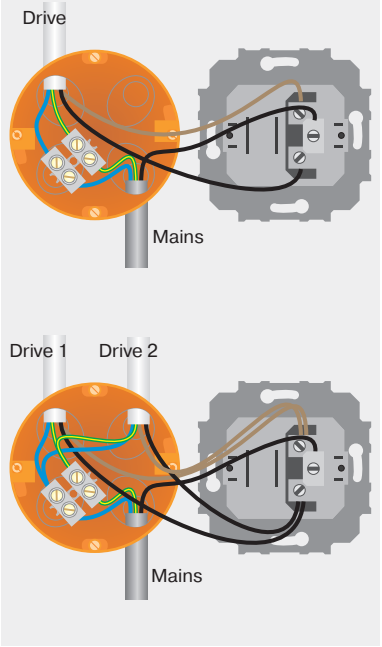
❸ **Serial number: e.g. 05 48 50542**

05	Year 2005
48	Calendar week
50542	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

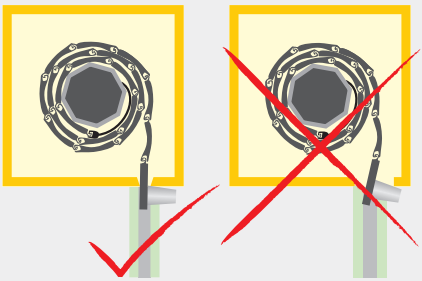
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

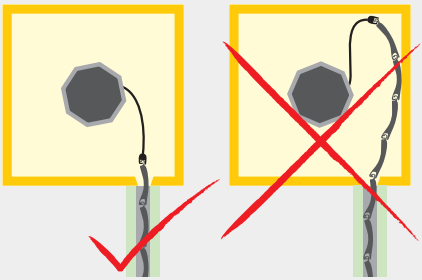
R(+) drives with electronic limit switching detect and program both limit positions automatically.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



Installation with springs of type R

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

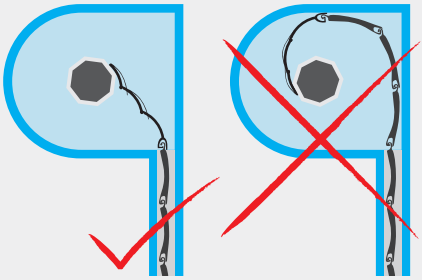


Installation with anti-lifting devices of type R+

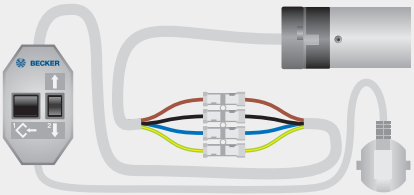
The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



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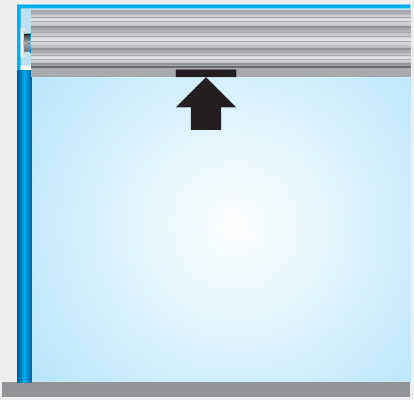
Programming the limit position when installing with springs

1. Programming the upper limit position

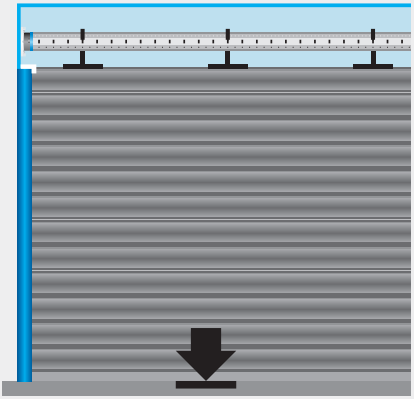
First, run the roller shutter towards the upper limit position until the drive switches off automatically.

Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After resetting (deletion of the limit positions), the drive is restarted until it reaches the upper limit position.



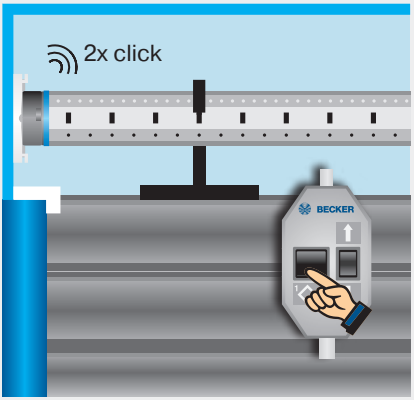
2. Programming the lower limit position

Then run the roller shutter towards the lower limit position until the drive switches off automatically.



3. Deleting the limit positions using the programming unit

Press the programming button until the drive clicks twice.

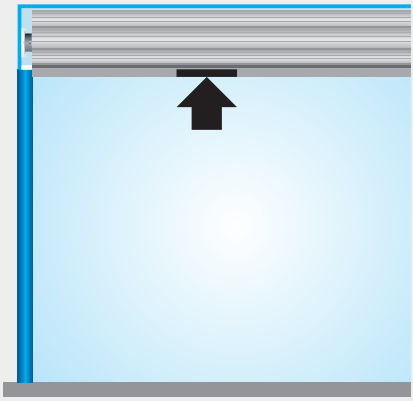


Programming the limit position when installing with anti-lifting devices

1. Programming the upper limit position

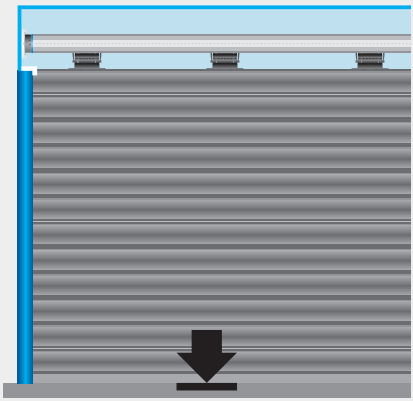
First, run the roller shutter towards the upper limit position until the drive switches off automatically.

Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After resetting (deletion of the limit positions), the drive is restarted until it reaches the upper limit position.



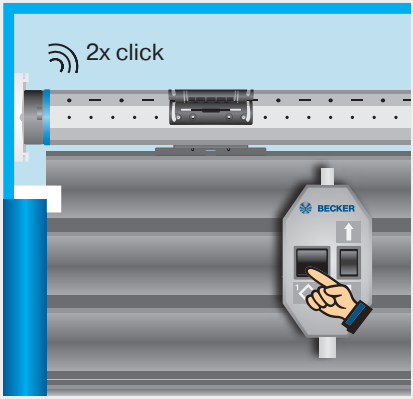
2. Programming the lower limit position

Then run the roller shutter towards the lower limit position until the drive switches off automatically.



3. Deleting the limit positions using the programming unit

Press the programming button until the drive clicks twice.



Type plate

❶ Type designation: e.g. R 8/17RO+

R	Size of drive (tube diameter) R - 45mm
8/17	Rated torque/output speed
R	Electronic limit switching for roller shutters
O	Sensitive obstacle detection
+	Suitable for anti-lifting device

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

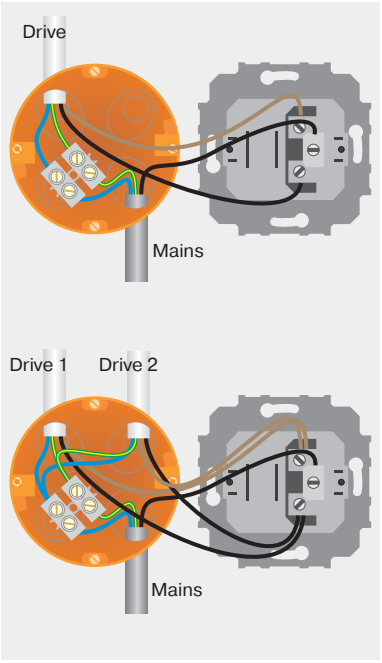
❸ Serial number: e.g. 12 43 60105

12	Year 2012
43	Calendar week
60105	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption, but must not exceed 5.

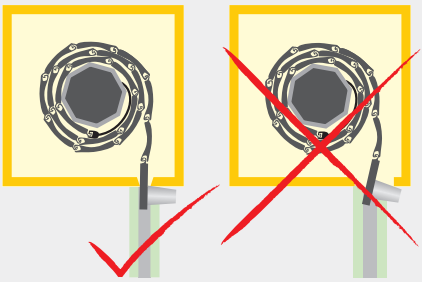
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

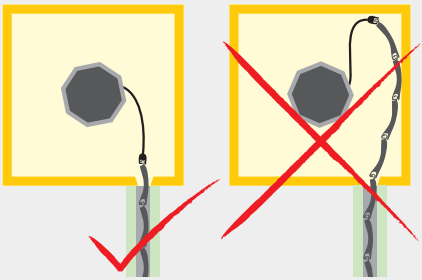
RO+ (E02) drives with electronic limit switching detect and program both limit positions automatically.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



Installation with springs

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

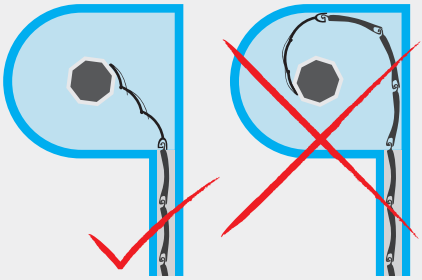


Installation with anti-lifting devices

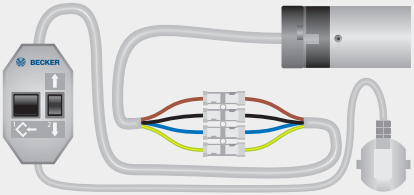
The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit. Alternatively, the limit positions can be deleted using the available operator control by running through a deletion sequence.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



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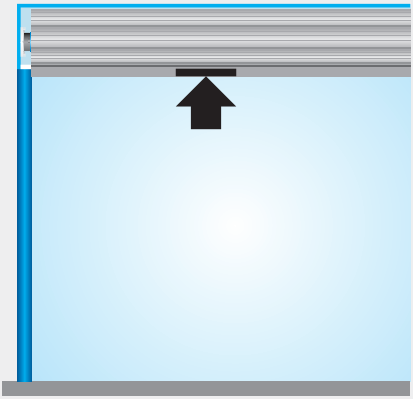
Setting the limit positions using the programming unit

1. Programming the upper limit position

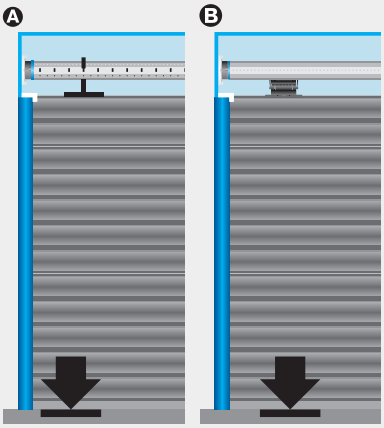
First, run the roller shutter towards the upper limit position until the drive switches off automatically.

Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After reversing a short way, the drive is started again until it reaches the upper limit position.



2. Programming the lower limit position

Run the roller shutter downwards until the drive switches off automatically due to the back-pressure of the springs Ⓐ or blocking by the anti-lifting device Ⓑ.



3. Deleting the limit positions using the programming unit

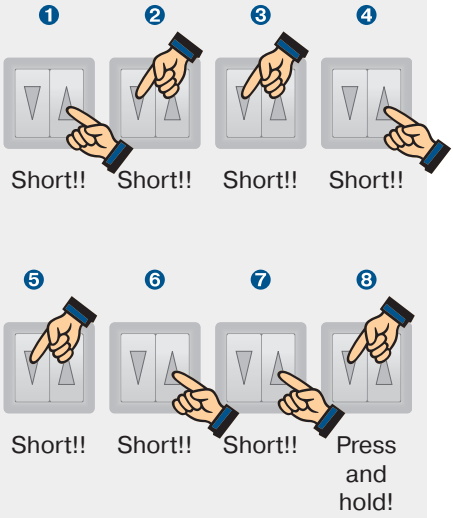
- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

4. Deleting the limit positions using any operator control

Run the drive for 6 seconds in the UP or DOWN direction.

Then rapidly run through steps ❶ to ❽ of the deletion sequence shown beside until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be executed after every **short** drive command.



Type plate

❶ Type designation: e.g. R 8/17RP+

R	Size of drive (tube diameter) R - 45mm
8/17	Rated torque/output speed
P	Point to point programming possible
R	Electronic limit switching for roller shutters
+	Suitable for anti-lifting device

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

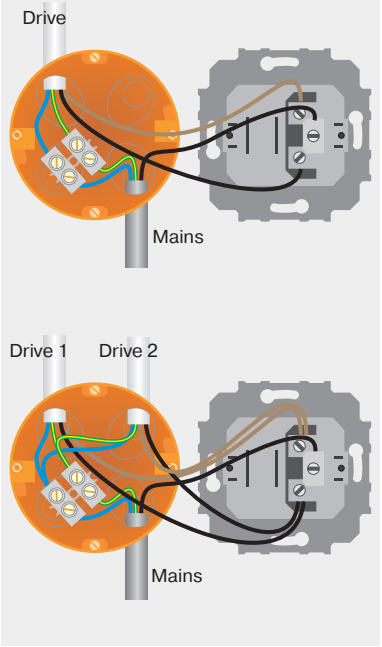
❸ Serial number: e.g. 09 01 102030

09	Year 2009
01	Calendar week
102030	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

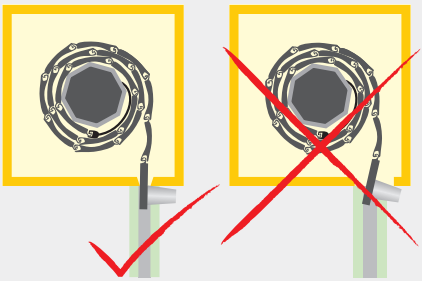
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

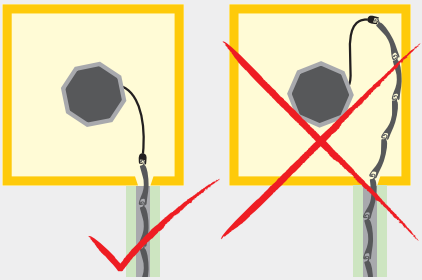
RP(+) drives with electronic limit switching detect and program both limit positions automatically. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position automatically, a defined stop must be present (angled strip or mechanical stop).



Installation with springs of type RP

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

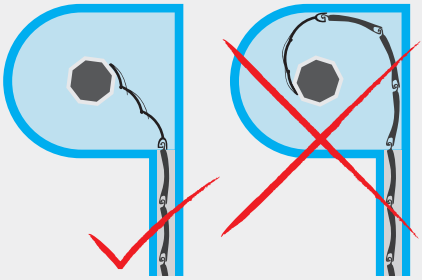


Installation with anti-lifting devices of type RP+

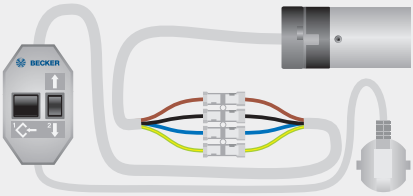
The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



BECKER

Setting the limit positions using the programming unit

1. Programming the upper limit position

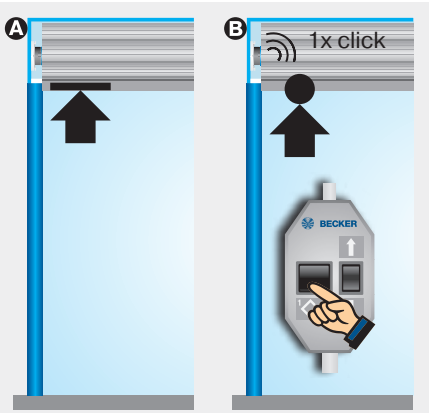
Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

Ⓐ To upper stop

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ To upper point

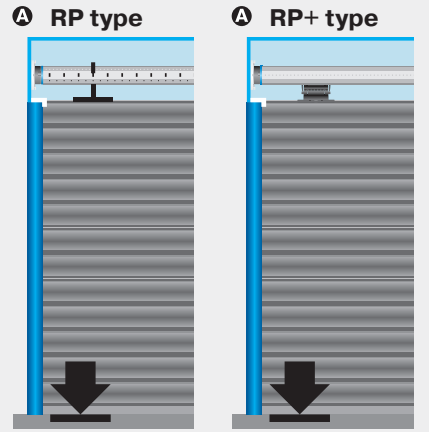
Run the roller shutter to the desired upper position and press the programming button on the programming unit until the drive clicks once.



2. Programming the lower limit position

Ⓐ To lower stop

Run the roller shutter downwards until the drive switches off automatically due to the back-pressure of the springs (RP type) or blocking by the anti-lifting device (RP+ type).



Ⓑ To lower point

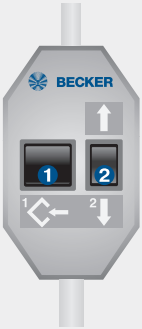
Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.

3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After reversing a short way, the drive is started again until it reaches the upper limit position.

The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.



4. Activating the cyclic shading solution length adjustment (optional)

Press the programming button on the programming unit for 10 seconds to activate the cyclic shading solution length adjustment. The drive confirms the action by clicking three times.

After the programming is completed (3 complete opening and closing movements), the roller shutter stops shortly before reaching the upper limit position and only runs up to the stop every 32nd time (correction run).

Type plate

❶ Type designation: e.g. R8-E03

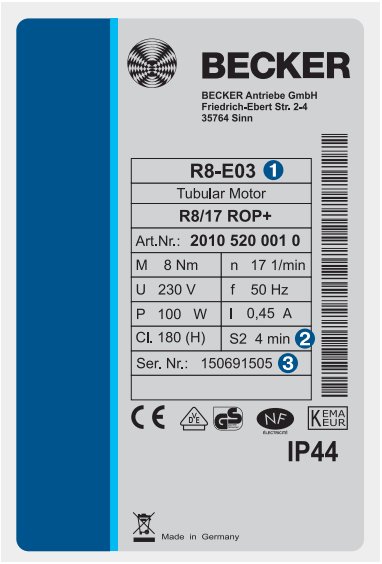
R	Size of drive (tube diameter) P - 35mm R - 45mm
8	Rated torque
E	Electronic limit switch
03	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 15 06 91505

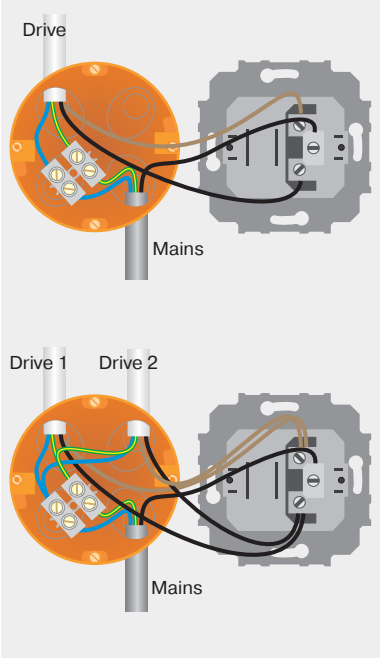
15	Year 2015
06	Calendar week
91505	Consecutive number



Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

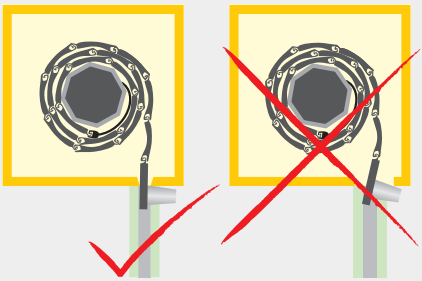
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

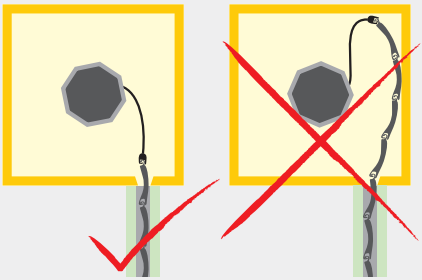
E03 drives with electronic limit switching detect and program both limit positions automatically. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position automatically, a defined stop must be present (angled strip or mechanical stop).



Installation with springs

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

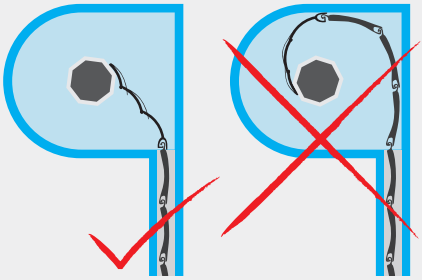


Installation with anti-lifting devices

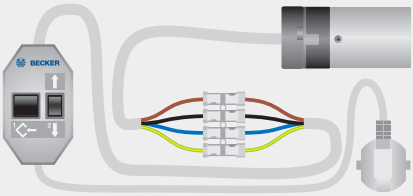
The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



BECKER

Setting the limit positions using the programming unit

1. Programming the upper limit position

Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

Ⓐ To upper stop

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ To upper point

Run the roller shutter to the desired upper position and press the programming button on the programming unit until the drive clicks once.

2. Programming the lower limit position

Ⓐ To lower stop

Run the roller shutter downwards until the drive switches off automatically due to the back-pressure of the springs or blocking by the anti-lifting device.

Ⓑ To lower point

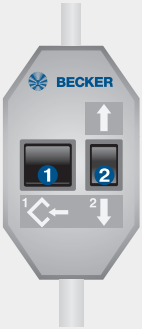
Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.

3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

Note: For safety reasons, the drive uses less force when opening the shutter for the first time (installation run). If the force is borderline, the drive may stop before reaching the upper limit position. After reversing a short way, the drive is started again until it reaches the upper limit position.

The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.



4. Activating the anti-freeze mechanism at the top (optional)

Run the roller shutter towards the upper limit stop and keep the UP button pressed.

Also press the programming button until the drive clicks three times.

You can also activate the upper anti-freeze mechanism by pressing the programming button for 10 seconds with the roller shutter in any position. The drive confirms the action by clicking three times.

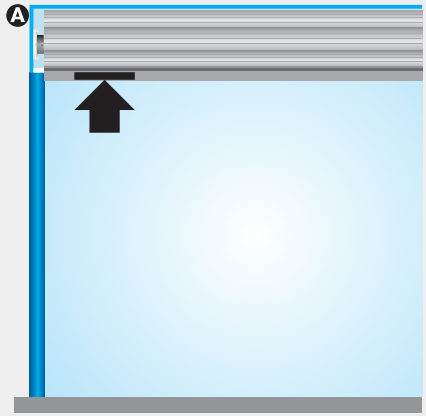
After the programming is completed (3 complete opening and closing movements), the roller shutters stop shortly before reaching the upper limit position and only runs up to the stop every 32nd time (correction run).

Setting the limit positions using the operator control

1. Setting the upper limit position using the operator control

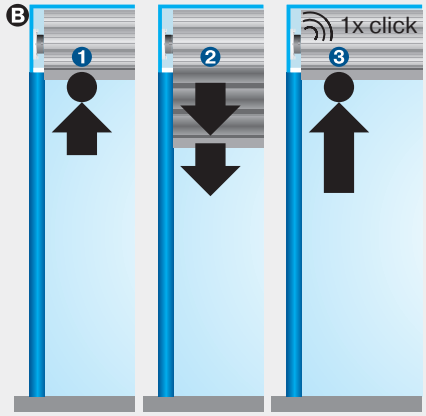
Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.



Ⓑ **To upper point**

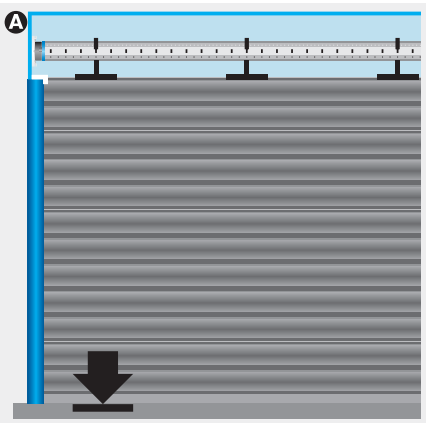
Run the roller shutter to the upper limit position ❶. Now run the roller shutter downwards briefly twice, ❷ then back up until the drive stops automatically and clicks once ❸.



2. Setting the lower limit position using the operator control

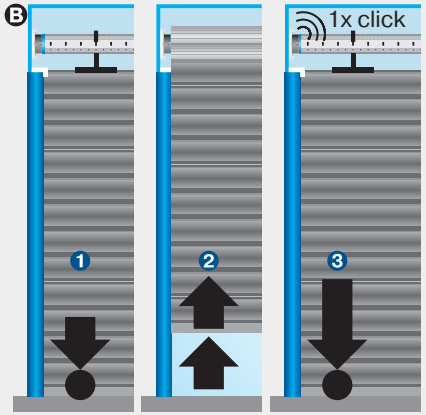
Ⓐ **To lower stop**

Run the roller shutter towards the lower stop until the drive stops automatically.



Ⓑ **To lower point**

Run the roller shutter to the lower limit position ❶. Now move the roller shutter up briefly twice, ❷ then back down until the drive stops automatically and clicks once ❸.

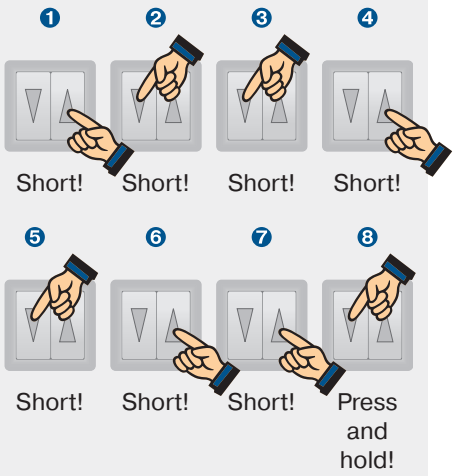


3. Deleting the limit positions using any operator control

Run the drive for 6 seconds in the UP or DOWN direction.

Then rapidly run through steps ❶ to ❽ the deletion sequence shown beside until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be executed after every **short** drive command.



BECKER

Type plate

❶ **Type designation: e.g. R8-17-E14**

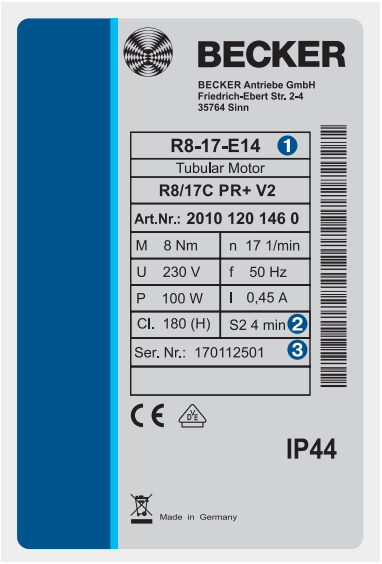
R	Size of drive (tube diameter) R - 45mm
8-17	Rated torque/output speed
E	Electronic limit switch
14	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 170112501**

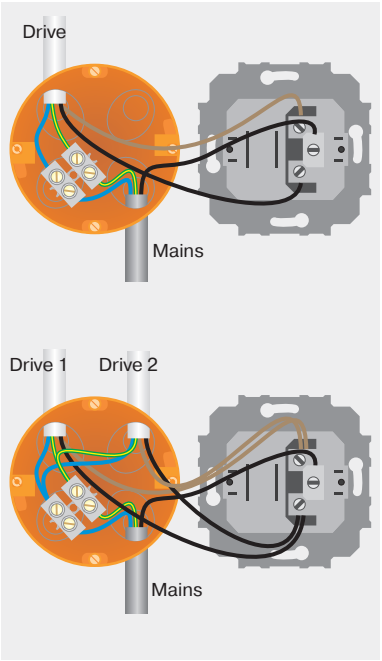
17	Year 2017
01	Calendar week
12501	Consecutive number



Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption, but must not exceed 5.

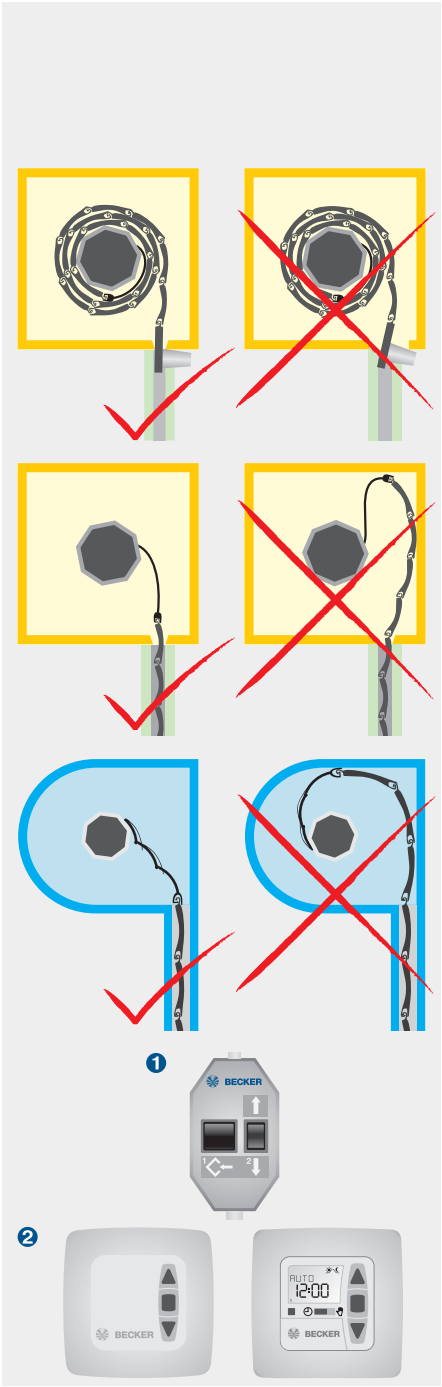
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

E14 drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



Installation with springs

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.

Setting the limit positions

The limit positions can be set in 2 different ways:

❶. Programming unit

❷. Operator control unit

Setting the limit positions using the programming unit

1. Setting the upper limit position using the programming unit

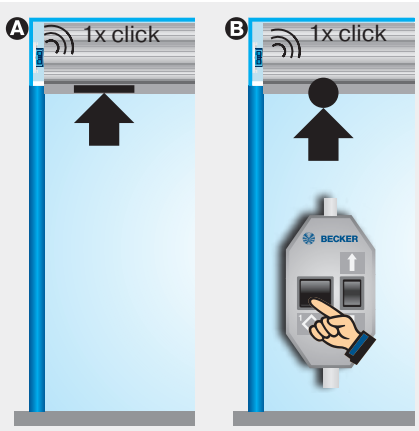
Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.



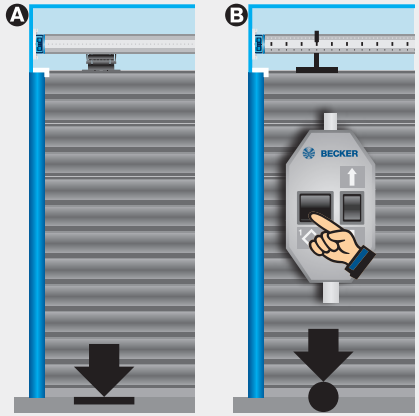
2. Setting the lower limit position using the programming unit

Ⓐ **To lower stop**

When using anti-lifting devices (fixed mountings), run the roller shutter downwards until the drive stops automatically.

Ⓑ **To lower point**

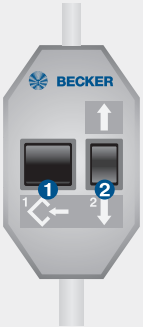
Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



Setting the limit positions using the operator control

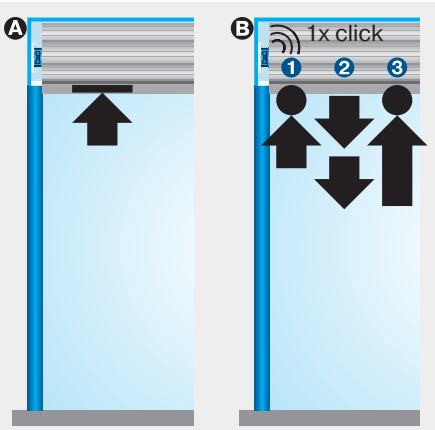
1. Setting the upper limit position using the operator control

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the upper limit position ❶. Now run the roller shutter downwards briefly twice, ❷ then back up until the drive stops automatically and clicks once ❸.



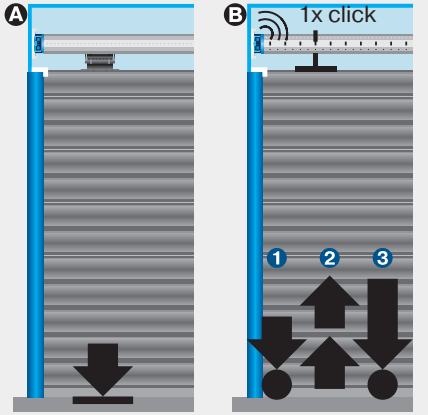
2. Setting the lower limit position using the operator control

Ⓐ **To lower stop**

When using anti-lifting devices (fixed mountings), run the roller shutter downwards until the drive stops automatically.

Ⓑ **To lower point**

Run the roller shutter to the lower limit position ❶. Now move the roller shutter up briefly twice, ❷ then back down until the drive stops automatically and clicks once ❸.

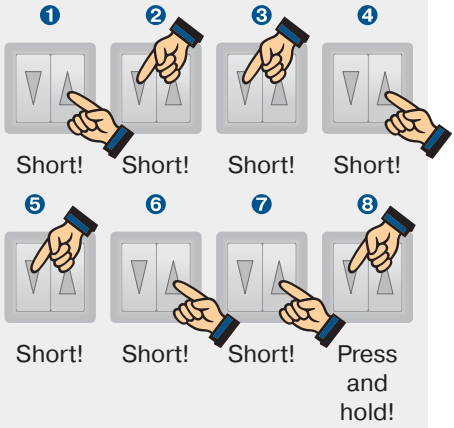


3. Deleting the limit positions using any operator control

Run the drive for 6 seconds in the UP or DOWN direction.

Then rapidly run through steps ❶ to ❽ of the deletion sequence shown beside until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be executed after every **short** drive command.



BECKER

Type plate

❶ Type designation: e.g. R 8/17 C PR+

R	Size of drive (tube diameter) P - 35mm R - 45mm
8/17	Rated torque/output speed
C	Pluggable connecting cable
P	Point to point programming possible
R	Electronic limit switching for roller shutters
+	Suitable for anti-lifting device

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

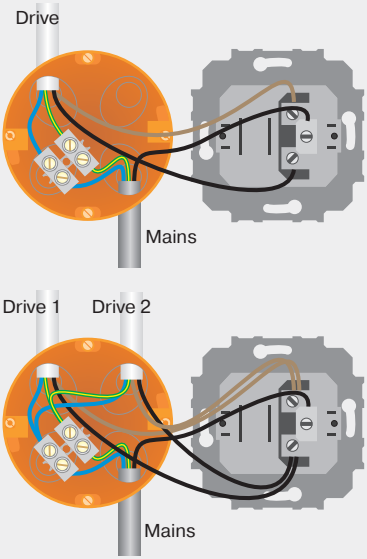
❸ Serial number: e.g. 08 40 961630

08	Year 2008
40	Calendar week
961630	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

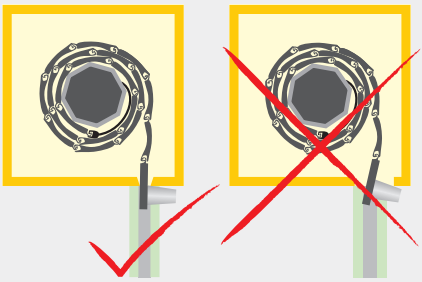
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

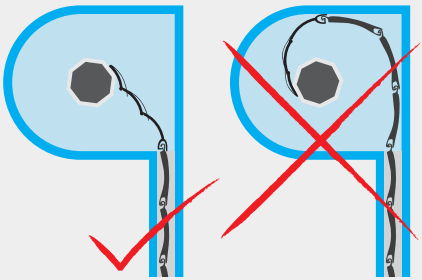
PR+ drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



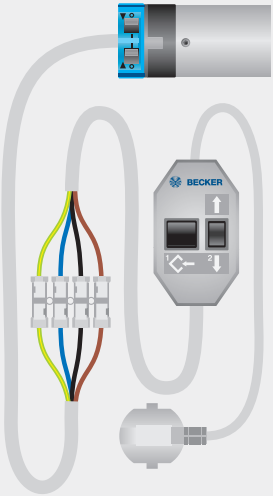
Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.



The limit positions can be set using the programming unit or the switch on the drive head.

Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



BECKER

Setting the limit positions with the switches

1. Deleting both limit positions with the switches

Set both switches to O and execute a short drive command.

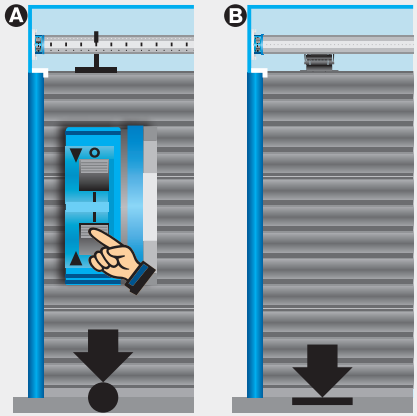
2. Setting the lower limit position with the switches

Ⓐ **To lower point**

Run the roller shutter to the desired position and switch the corresponding switch from O to I.

Ⓑ **To lower stop**

Set both switches to I. When using anti-lifting devices (fixed mountings), run the roller shutter downwards until the drive stops automatically.



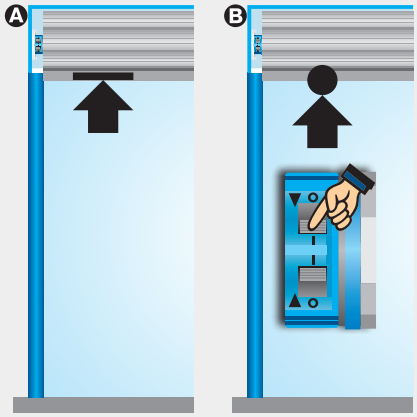
3. Setting the upper limit position with the switches

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position and switch the corresponding switch from O to I (in the case of anti-lifting devices, this is only possible with a programming unit).



Setting the limit positions using the programming unit

1. Setting the lower limit position using the programming unit

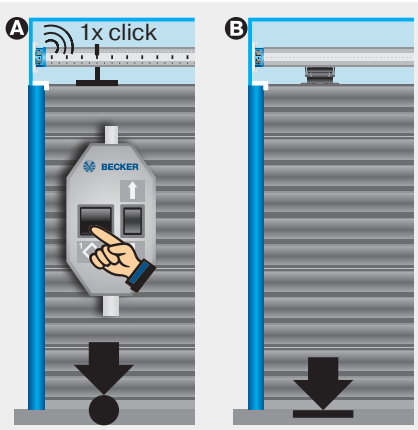
Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit. Set both switches to the programming setting (‖).

Ⓐ **To lower point**

Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.

Ⓑ **To lower stop**

When using anti-lifting devices (fixed mountings), run the roller shutter downwards until the drive stops automatically.



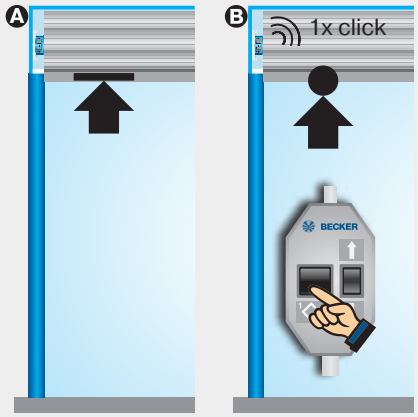
2. Setting the upper limit position using the programming unit

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ↓ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.

Type plate

❶ **Type designation: e.g. R8-E01**

R	Size of drive (tube diameter) P - 35mm R - 45mm
8	Rated torque
E	Electronic limit switch
01	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

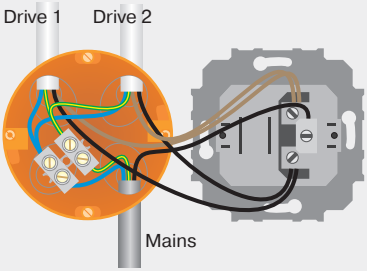
❸ **Serial number: e.g. 15 06 61007**

15	Year 2015
06	Calendar week
61007	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



For the sensitive obstacle detection to be active, the drive adapter with object detection must be mounted on the drive.

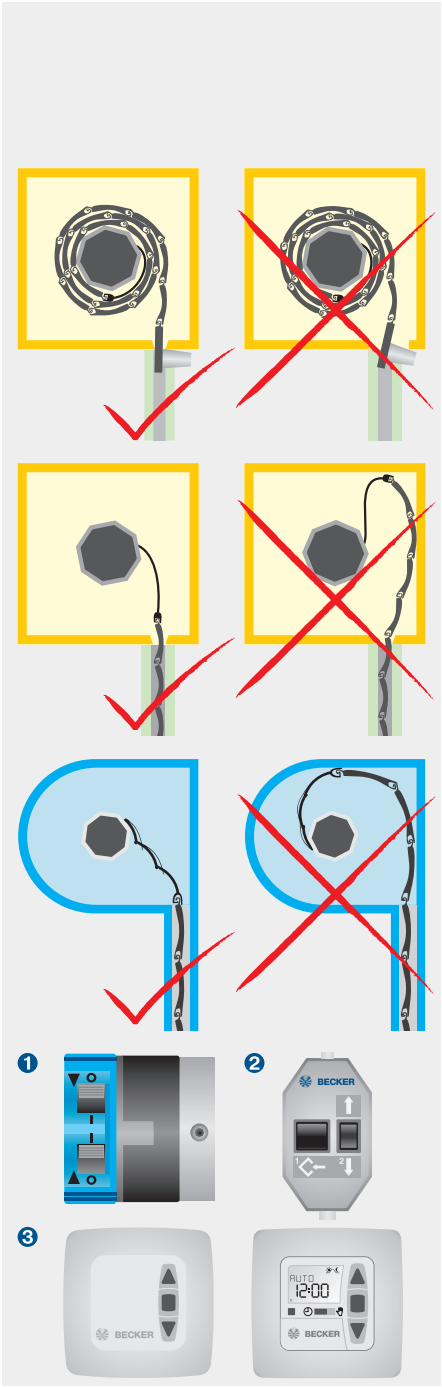

Drive adapter


Drive adapter with obstacle detection

Information

E01 drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



Installation with springs

No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.

Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

The limit positions can be set using any operator control.

Limit positions are deleted using the programming unit.

Setting the limit positions

The limit positions can be set in 3 different ways:

❶. Switch on drive

❷. Programming unit

❸. Operator control unit

Setting the limit positions with the switches

1. Deleting both limit positions with the switches

Set both switches to O and execute a short drive command.

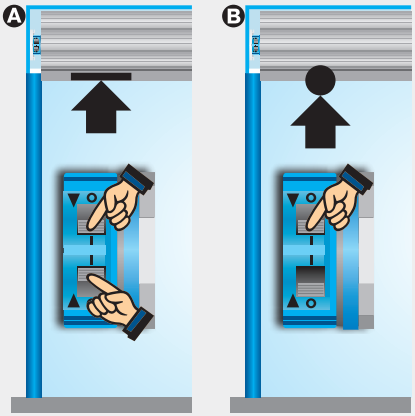
2. Setting the upper limit position with the switches

A To upper stop

Set both switches to I and run the roller shutter towards the upper stop until the drive stops automatically.

B To upper point

Run the roller shutter to the desired upper position and switch the corresponding switch from O to I.



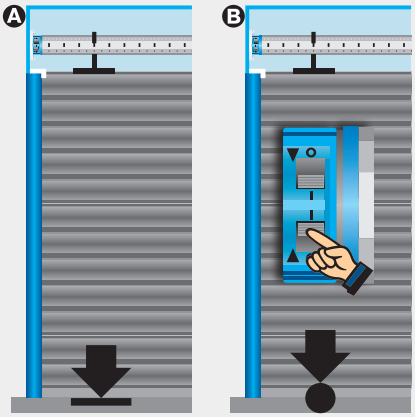
3. Setting the lower limit position with the switches

A To lower stop

Run the roller shutter downwards until the drive switches off automatically.

B To lower point

Run the roller shutter to the desired lower position and switch the corresponding switch from O to I (when programming the upper stop, both switches are at I, so this is not possible).



Setting the limit positions using the operator control

1. Setting the upper limit position using the operator control

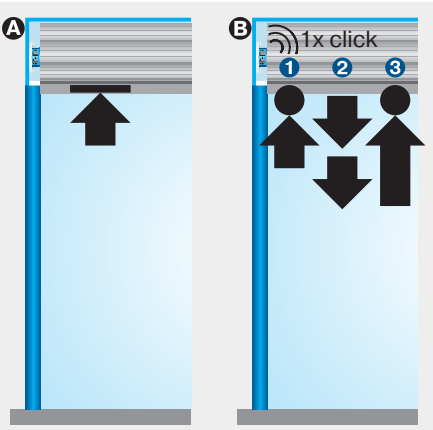
Set both switches on the drive to the programming setting (▌).

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the upper limit position ❶. Now run the roller shutter downwards briefly twice, ❷ then back up until the drive stops automatically and clicks once ❸.



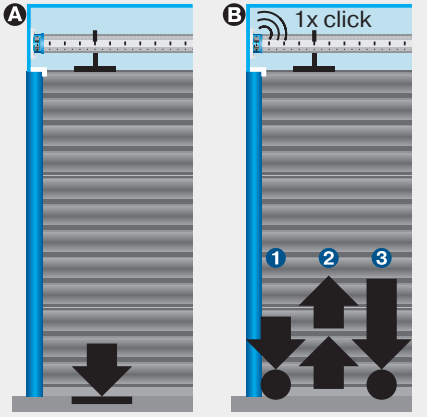
2. Setting the lower limit position using the operator control

Ⓐ **To lower stop**

Run the roller shutter towards the lower stop until the drive stops automatically.

Ⓑ **To lower point**

Run the roller shutter to the lower limit position ❶. Now move the roller shutter up briefly twice, ❷ then back down until the drive stops automatically and clicks once ❸.

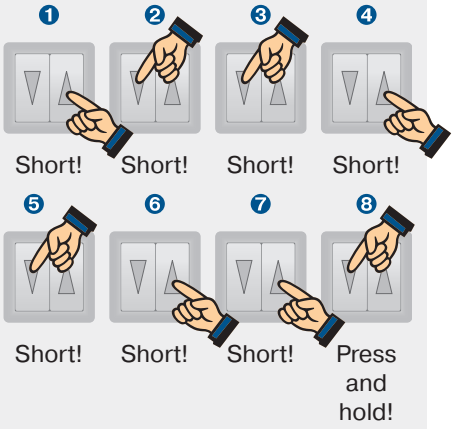


3. Deleting the limit positions using any operator control

Run the drive for 6 seconds in the UP or DOWN direction.

Then run through steps ❶ to ❽ of the deletion sequence shown opposite until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be executed after every **short** drive command.



BECKER

Setting the limit positions using the programming unit

1. Setting the upper limit position using the programming unit

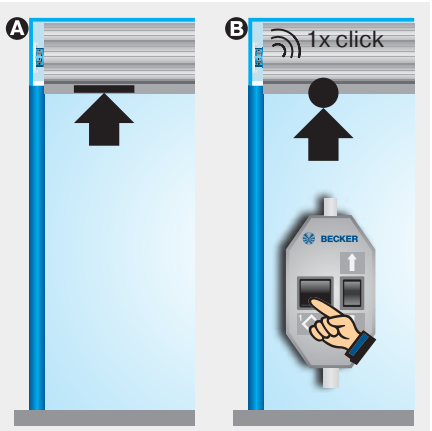
Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit. Set both switches to the programming setting (▌).

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.



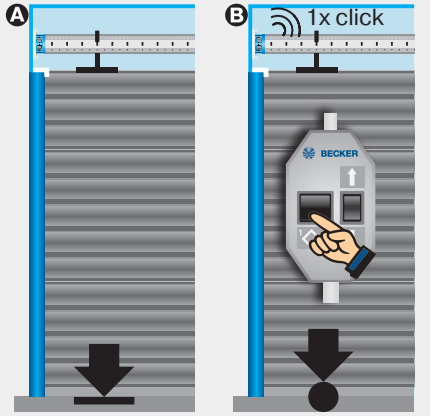
2. Setting the lower limit position using the programming unit

Ⓐ **To lower stop**

Run the roller shutter towards the lower stop until the drive stops automatically.

Ⓑ **To lower point**

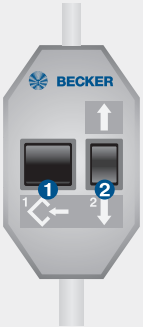
Run the roller shutter to the desired position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



Note:
The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.

Activating special functions

4. Activating the anti-freeze mechanism at the top

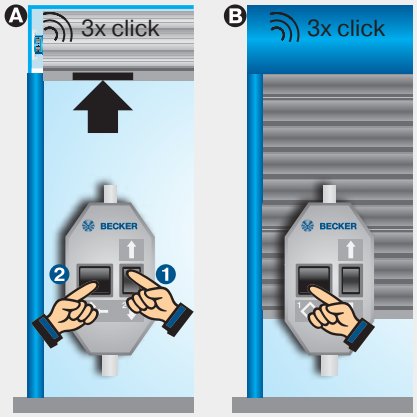
The upper anti-freeze mechanism can be activated in two ways:

Ⓐ **In the upper limit position during the installation run**

Keep pressing the travel button ❶ and also press the programming button ❷ until the drive clicks three times.

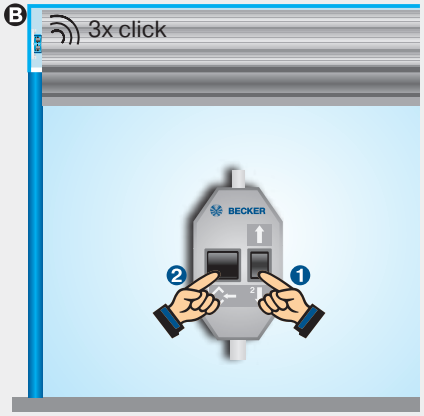
Ⓑ **Between the limit positions following the installation**

Press the programming button until the drive clicks three times after 10 seconds.



5. Activating the fly screen protection function

Move the roller shutter out of the upper limit position and, within one second, press ❶ the programming button ❷ as well as the travel button until the drive clicks three times.



EVO 20 R (BT) drives

Type plate

❶ **Type designation: e.g. R12-EVO 20 R BT**

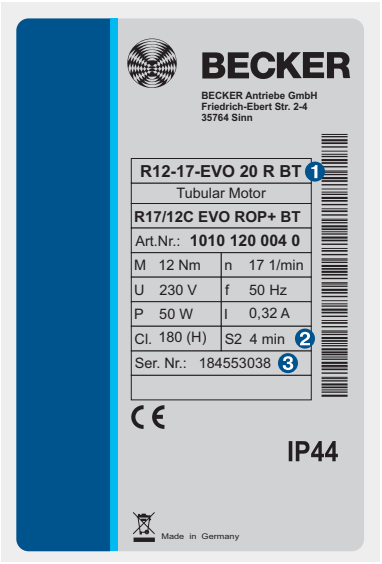
R	Size of drive (tube diameter) P - 35mm R - 45mm
12	Rated torque
EVO	Latest generation drive with variable speed
20 R	Roller shutter application
BT	Bluetooth® receiver (optional)

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 184553038**

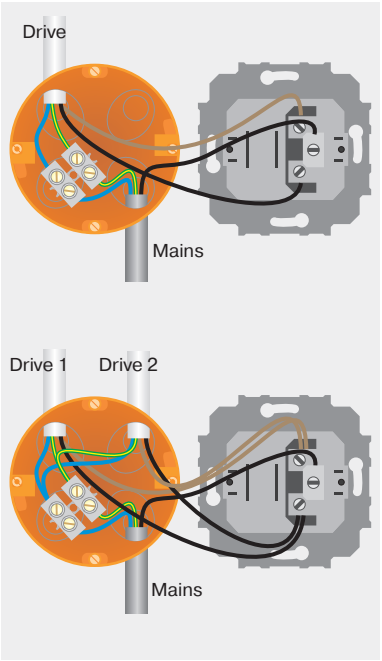
18	Year 2018
45	Calendar week
53038	Consecutive number



Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the respective current consumption but must not exceed 5.

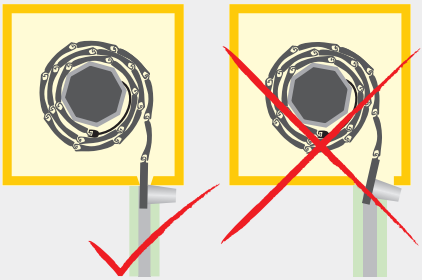
The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous UP and DOWN commands.



Information

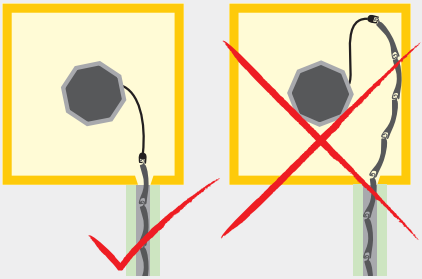
EVO 20 R drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position automatically, a defined stop must be present (angled strip or mechanical stop).



Installation with springs

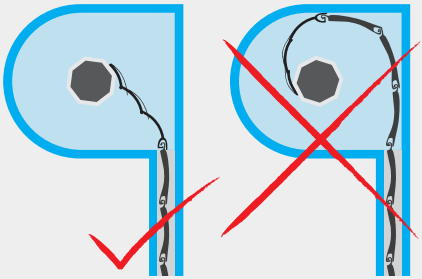
No more than one roller shutter slat should jut out over the intake guide. In the lower limit position, the springs must act against the tube's rotary motion. The springs should be mounted 30 cm apart from one another.



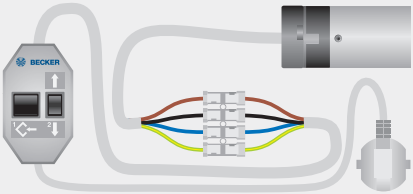
Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

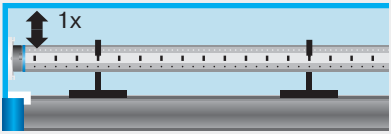
The limit positions can be deleted and re-adjusted by any operator control.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



A programming procedure is confirmed by one or more upward/downward movements of the drive.



BECKER

Setting the limit positions using the programming unit

1. Setting the upper limit position using the programming unit

Connect the wires in the connecting cable of the drive to the wires of the same colour in the Becker programming unit.

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired position and press the programming button on the programming unit until the drive confirms once.

2. Setting the lower limit position using the programming unit

Ⓐ **To lower stop**

Run the roller shutter towards the lower stop until the drive stops automatically.

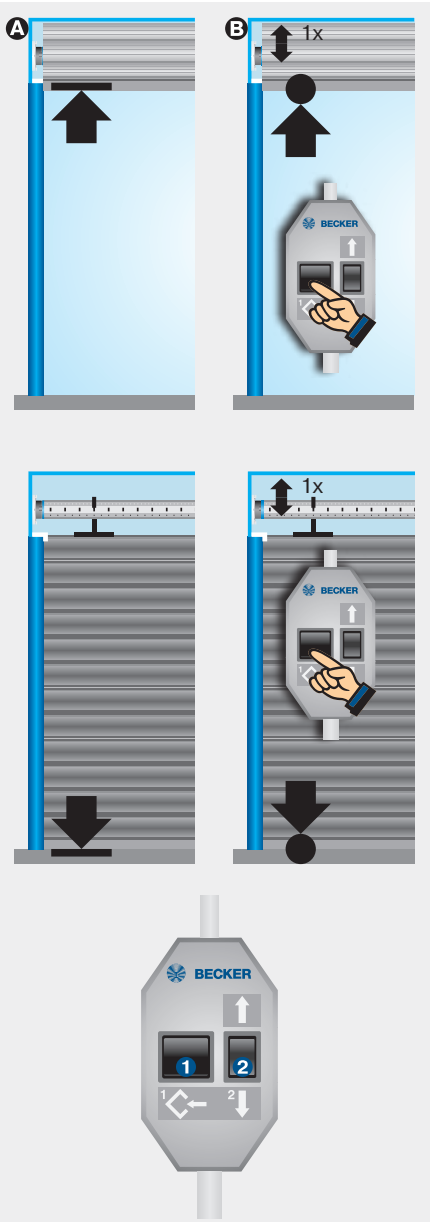
Ⓑ **To lower point**

Run the roller shutter to the desired position and press the programming button on the programming unit until the drive confirms once.

3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



Note:
The drive indicates the lack of a limit position by briefly stopping (limit position status indicator).

Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions and moves to the standard operation travel profile.

Activating special functions

4. Activating the anti-freeze mechanism at the top

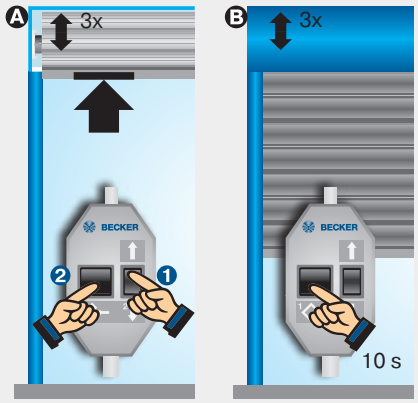
The upper anti-freeze mechanism can be activated in two ways:

Ⓐ **In the upper limit position during the installation run**

Once the upper limit position is reached, keep the travel button ❶ pressed down and also press the programming button ❷ until the drive confirms three times.

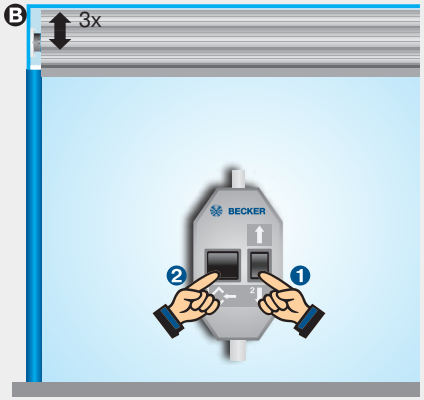
Ⓑ **Between the limit positions following the installation**

Press the programming button until the drive clicks three times after 10 seconds.



5. Activating the fly screen protection function

Move the roller shutter out of the upper limit position and, within one second, press ❶ the programming button ❷ as well as the travel button until the drive clicks three times.

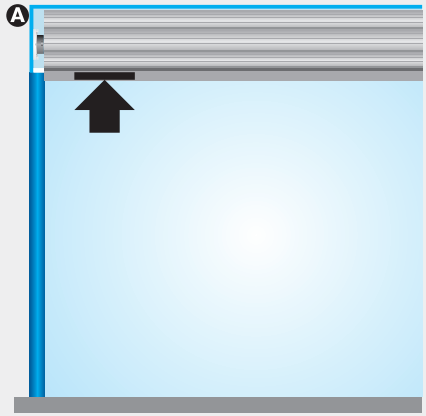


Setting the limit positions using the operator control

1. Setting the upper limit position using the operator control

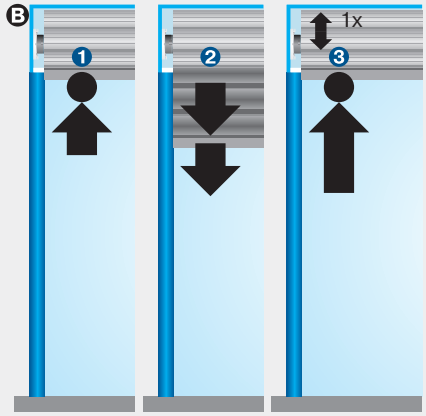
Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.



Ⓑ **To upper point**

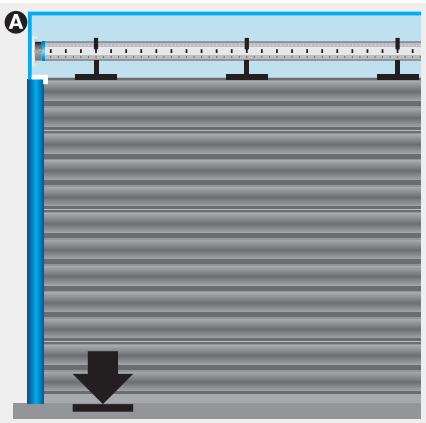
Run the roller shutter to the upper limit position ❶. Now run the roller shutter downwards briefly twice, ❷ then back up until the drive stops automatically and clicks once ❸.



2. Setting the lower limit position using the operator control

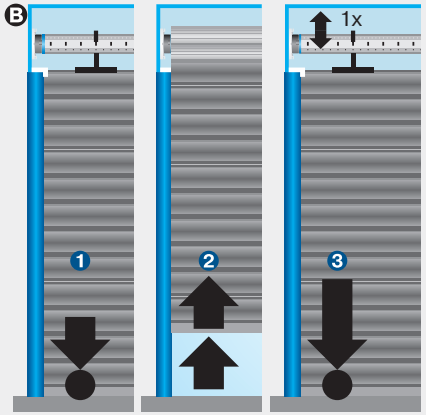
Ⓐ **To lower stop**

Run the roller shutter towards the lower stop until the drive stops automatically.



Ⓑ **To lower point**

Run the roller shutter to the lower limit position ❶. Now move the roller shutter up briefly twice, ❷ then back down until the drive stops automatically and clicks once ❸.

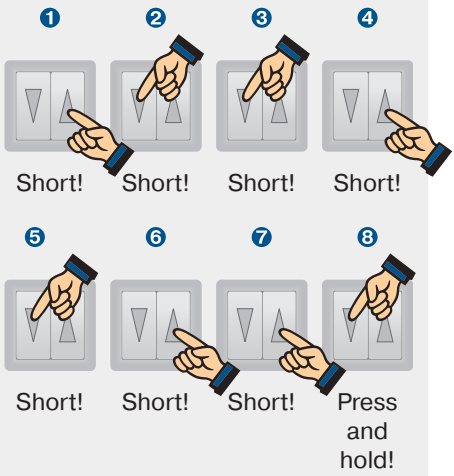


3. Deleting the limit positions using any operator control

Run the drive for 6 seconds in the UP or DOWN direction.

Then rapidly run through steps ❶ to ❽ the deletion sequence shown beside until the drive clicks twice.

When using operator controls with maintained operation mode (e.g. a timer), a STOP command must be executed after every **short** drive command.



Travel profiles

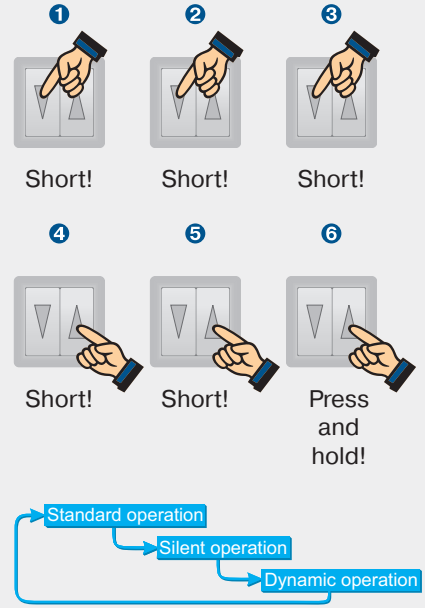
1. Selecting the travel profile

Run the shading solution to the central position.

Then run through steps ❶ to ❻ of the deletion sequence shown beside until the drive clicks twice.

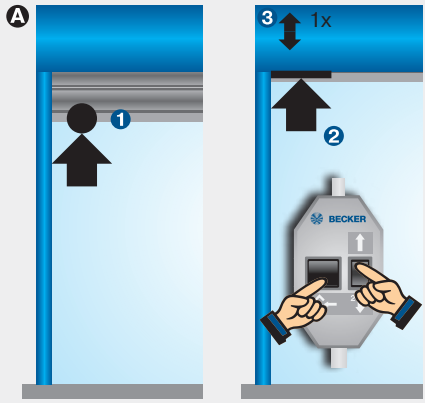
When using operator controls with maintained operation mode, a STOP command must be executed after every short drive command. The drive switches between the following profiles:

1. **Standard operation**
   The drive travels at a reduced speed before and after the limit positions (zone for slow travel).
2. **Silent operation**
   The drive constantly travels at a reduced speed.
3. **Dynamic operation**
   The drive constantly travels at a high speed.



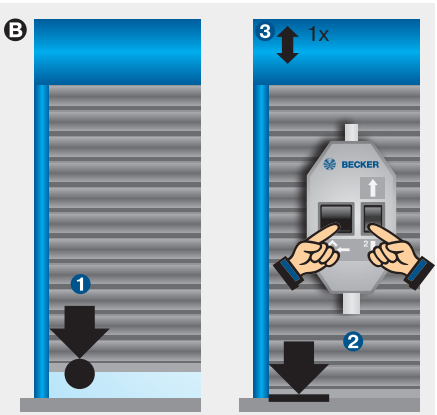
Modifying the zone for slow travel in the “Standard operation” travel profile

Ⓐ **Upper zone**
Approach the point where you want the upper zone to start ❶. Start the shading solution in the UP direction using the travel button and also press the programming button ❷ until the drive stops at the upper limit position and confirms once ❸.



Ⓑ Lower zone

Approach the point where you want the lower zone to start ❶. Start the shading solution in the DOWN direction using the travel button and also press the programming button ❷ until the drive stops at the lower limit position and confirms once ❸.



Programming via the Bluetooth® interface (drives with additional BT function)

The Becker Service app can be used to switch the special functions on and off, to change the travel profile, to modify the zone for slow travel and to select the speed for slow and normal travel.

To do so, follow the instructions in the app.

From Bluetooth® version 4.0

GET IT ON Google Play

Download on the App Store

BECKER

Type plate

❶ Type designation: e.g. R8/17 C PRF+

R	Size of drive (tube diameter) P - 35mm R - 45mm
8/17	Rated torque/output speed
C	Pluggable connecting cable
P	Point to point programming possible
R	Electronic limit switching for roller shutters
F	Radio receiver
+	Suitable for anti-lifting device

❷ Operating mode (short-period operation S2)

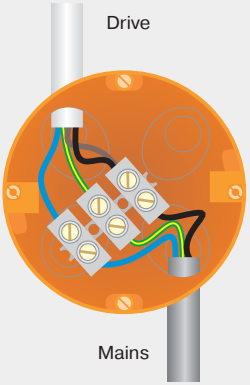
After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 08 49 20071

08	Year 2008
49	Calendar week
20071	Consecutive number

Wiring

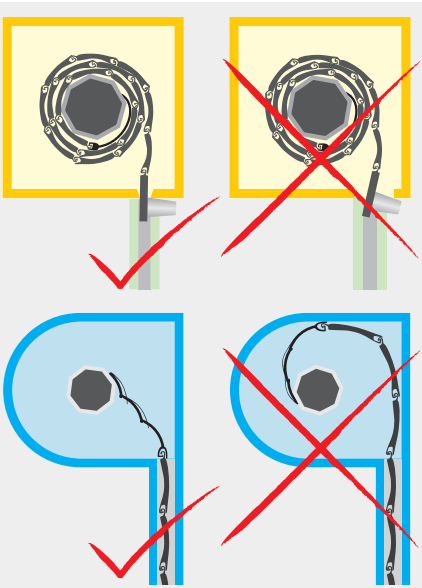
Drives with electronic limit switching and integrated radio receiver are connected directly to the power supply. The brown wire and the black wire together are connected to the outer conductor L1.



Information

PRF+ drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).

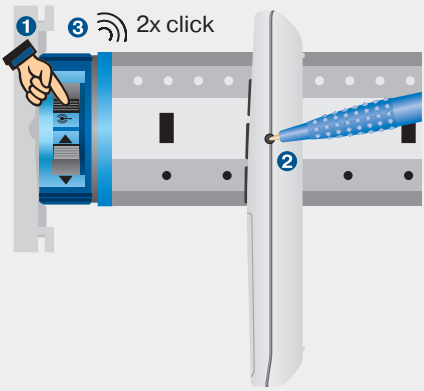


Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

Programming the master transmitter

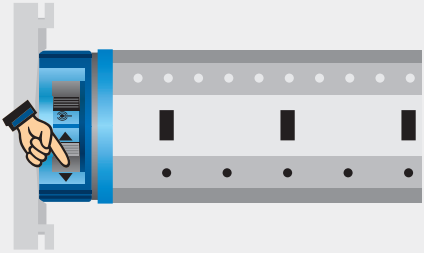
Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the required master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).



Correcting the direction of rotation

If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Attention: The direction of rotation can only be changed as long as no limit positions have been programmed.



BECKER

Setting the limit positions

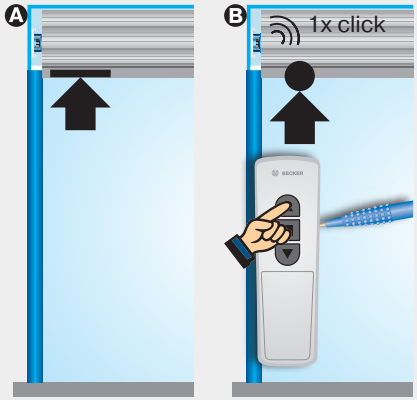
1. Programming the upper limit position with the master transmitter

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position. Then press the programming button and the UP button until the drive clicks once.



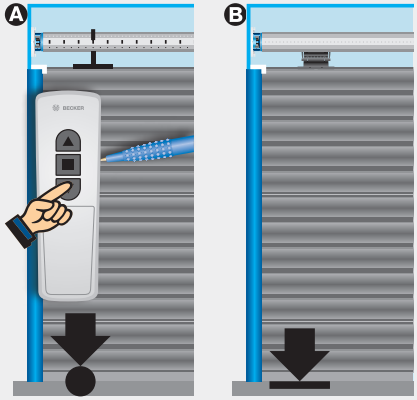
2. Programming the lower limit position with the master transmitter

Ⓐ **To lower point**

Run the roller shutter to the desired position. Then press the programming button and the DOWN button until the drive clicks once.

Ⓑ **To lower stop (only with anti-lifting devices)**

Run the roller shutter downwards until the drive switches off automatically.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

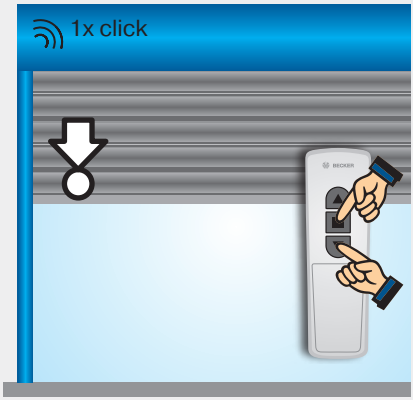
If the roller shutter is situated between the limit positions, both limit positions are deleted in the procedure. If the roller shutter is situated in one of the limit positions, only this position will be deleted.

Setting the intermediate positions

4. Programming the intermediate position I

Run the drive to the required intermediate position I and press the STOP and DOWN buttons until the drive clicks once.

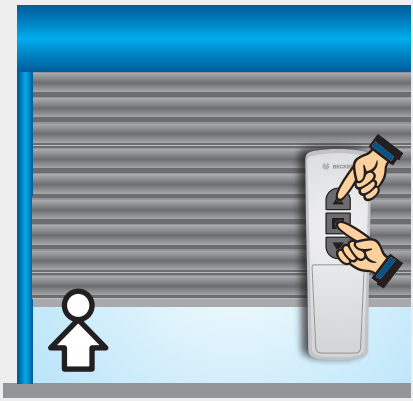
To travel to intermediate position I, press the DOWN button twice within one second (double tap).



5. Programming the intermediate position II

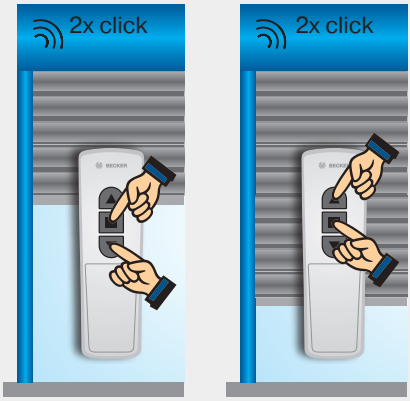
Run the drive to the required intermediate position II and press the STOP and UP buttons until the drive clicks once.

To travel to intermediate position II, press the UP button twice within one second (double tap).



6. Deleting the intermediate position I/intermediate position II

Run the drive to the position you wish to delete and repeat the programming procedure (press the STOP and DOWN buttons or STOP and UP buttons) until the drive clicks twice.



BECKER

Type plate

❶ Type designation: e.g. R8/17 C PROF+

R	Size of drive (tube diameter) P - 35mm R - 45mm
8/17	Rated torque/output speed
C	Pluggable connecting cable
P	Point to point programming possible
R	Electronic limit switching for roller shutters
O	Sensitive obstacle detection
F	Radio receiver
+	Suitable for anti-lifting device

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

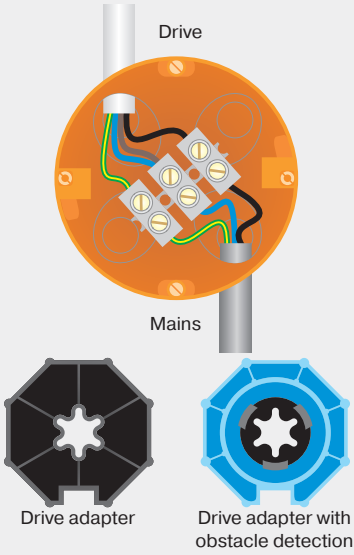
❸ Serial number: e.g. 10 18 60713

10	Year 2010
18	Calendar week
60713	Consecutive number

Wiring

Drives with electronic limit switching and integrated radio receiver are connected directly to the power supply. The brown wire and the blue wire together are connected to the neutral wire.

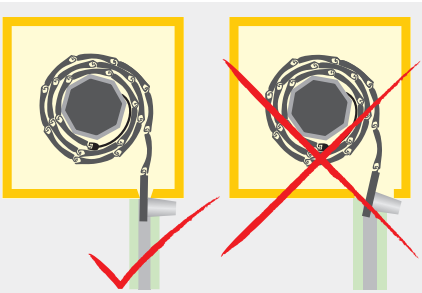
For the sensitive obstacle detection to be active, the drive adapter with object detection must be mounted on the drive.



Information

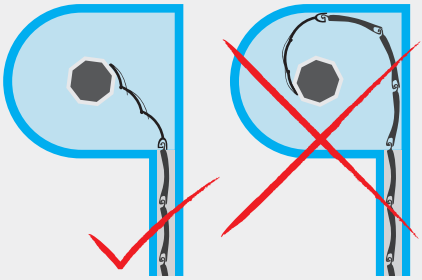
PROF+ drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



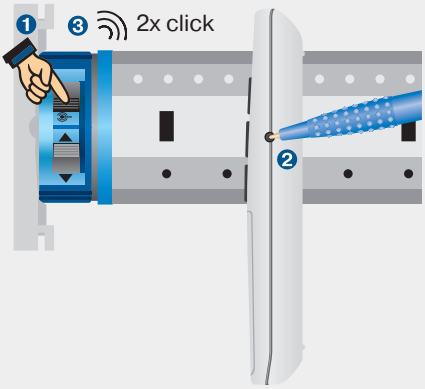
Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.



Programming the master transmitter

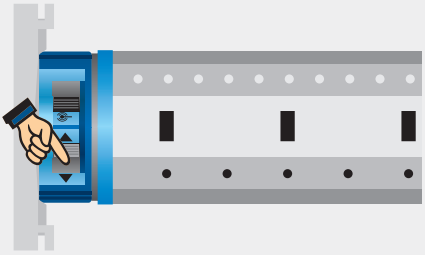
Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the required master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).



Correcting the direction of rotation

If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Attention: The direction of rotation can only be changed as long as no limit positions have been programmed.



BECKER

Setting the limit positions

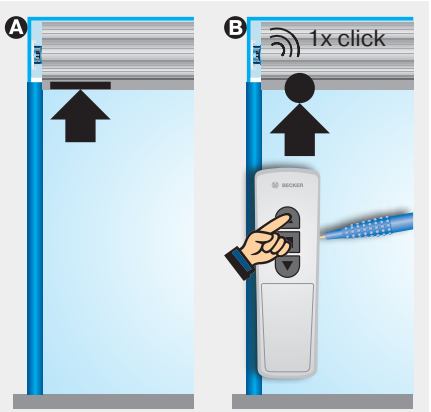
1. Programming the upper limit position with the master transmitter

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position. Then press the programming button and the UP button until the drive clicks once.



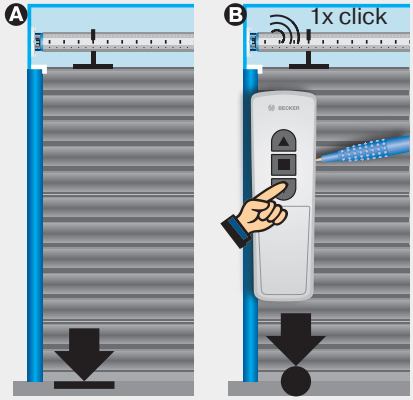
2. Programming the lower limit position with the master transmitter

Ⓐ **To lower stop**

Run the roller shutter down until the drive switches off automatically (the drive adapter for obstacle detection must be used for the installation with springs).

Ⓑ **To lower point**

Run the roller shutter to the desired position. Then press the programming button and the DOWN button until the drive clicks once.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

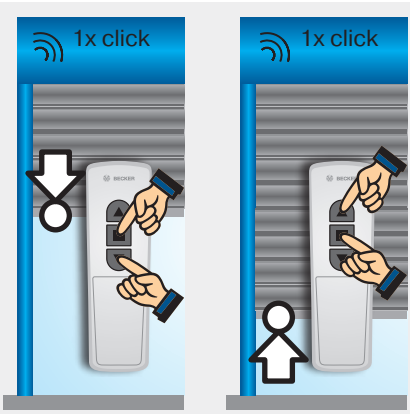
If the roller shutter is situated between the limit positions, both limit positions are deleted in the procedure. If the roller shutter is situated in one of the limit positions, only this position will be deleted.

Setting the intermediate positions

4. Programming the intermediate position/ventilation position

Run the drive to the required intermediate position/ventilation position and press the STOP and DOWN buttons or STOP and UP buttons until the drive clicks once.

To travel to the intermediate position/ventilation position, press the DOWN button or UP button twice within one second (double tap).



Intermediate position | Ventilation position

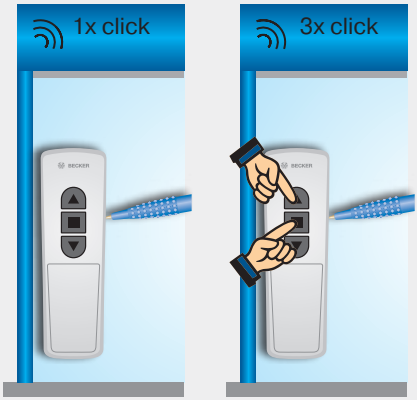
5. Deleting the intermediate position/ventilation position

Run the drive to the position you wish to delete and repeat the programming procedure (press the STOP and DOWN buttons or STOP and UP buttons) until the drive clicks twice.

6. Activating the anti-freeze mechanism at the top (optional)

Run the roller shutter towards the upper stop. Then press the programming button until the drive clicks once. Then press the programming button, STOP button and UP button until the drive clicks three times.

Follow the same procedure to deactivate the anti-freeze mechanism at the top.



Note:

The drive moves in dead-man mode during the installation run (initial opening and closing movement). The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.

Type plate

❶ **Type designation: e.g. R8-C01**

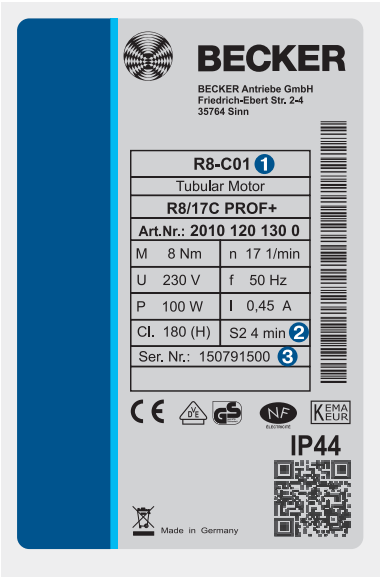
R	Size of drive (tube diameter) P - 35mm R - 45mm
8	Rated torque
C	Centronic remote control
01	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 15 07 91500**

15	Year 2015
07	Calendar week
91500	Consecutive number



Wiring

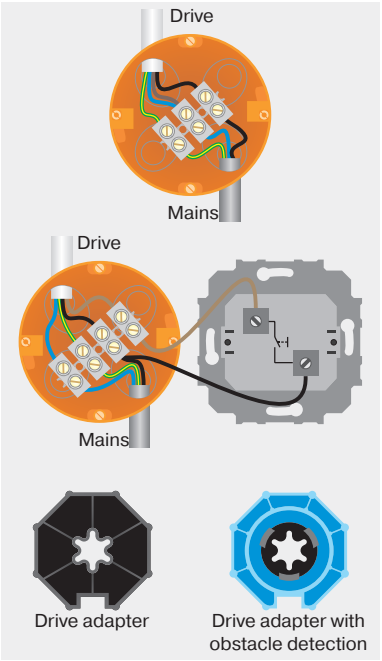
Connection without on-site operation

The blue and green/yellow wires of the drive are connected to the same coloured wires of the power line. The black wire of the drive is connected to the phase (L) and the brown wire is also connected to the blue wire (N) of the power line.

Connection with on-site operation with a single button

With on-site operation, the brown wire of the drive is connected to the phase of the power line via a single button. The push-button must not be operated during the first five seconds after the mains voltage has been switched on. The drive can then be operated via the single button using the command sequence Up, Stop, Down, Stop, etc.

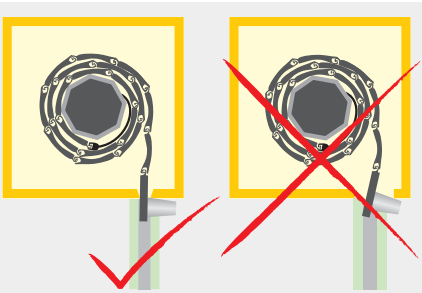
For the sensitive obstacle detection to be active, the drive adapter with object detection must be mounted on the drive.



Information

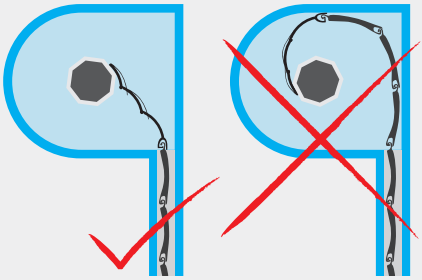
C01 drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).



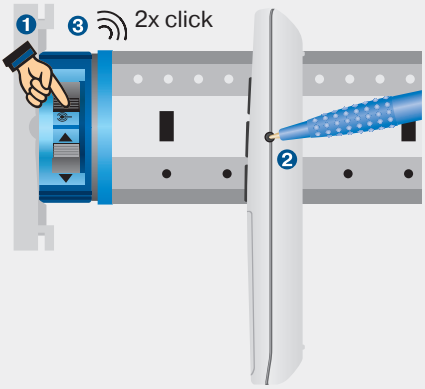
Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.



Programming the master transmitter

Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the required master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).

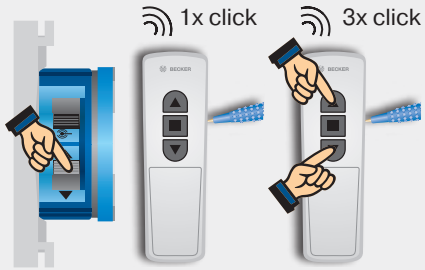


Correcting the direction of rotation

No limit positions may be programmed.

Via the switch on the drive: If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Via the master transmitter: Press the programming button until the drive clicks once. Then press the programming button, UP button and DOWN button until the drive clicks three times.



BECKER

Setting the limit positions

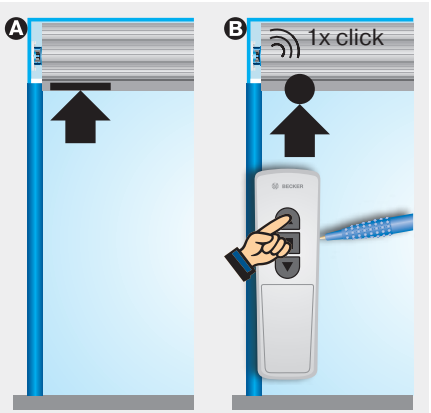
1. Programming the upper limit position with the master transmitter

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position. Then press the programming button and the UP button until the drive clicks once.



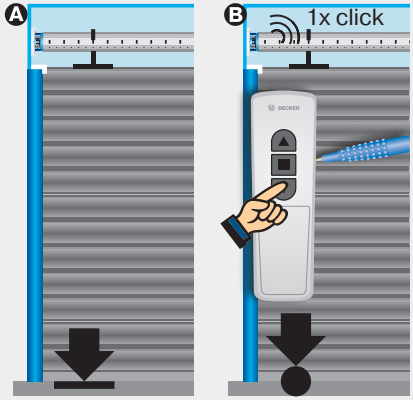
2. Programming the lower limit position with the master transmitter

Ⓐ **To lower stop**

Run the roller shutter down until the drive switches off automatically (the drive adapter for obstacle detection must be used for the installation with springs).

Ⓑ **To lower point**

Run the roller shutter to the desired position. Then press the programming button and the DOWN button until the drive clicks once.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

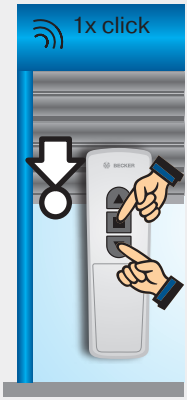
If the roller shutter is situated between the limit positions, both limit positions are deleted in the procedure. If the roller shutter is situated in one of the limit positions, only this position will be deleted.

Setting the intermediate positions

4. Programming the intermediate position/ventilation position

Run the drive to the required intermediate position/ventilation position and press the STOP and DOWN buttons or STOP and UP buttons until the drive clicks once.

To travel to the intermediate position/ventilation position, press the DOWN button or UP button twice within one second (double tap).



Intermediate position

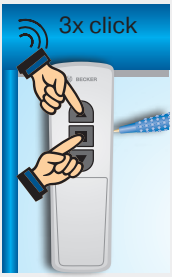
Ventilation position

5. Deleting the intermediate position/ventilation position

Run the drive to the position to be deleted and repeat the programming until the drive clicks twice.

6. Activating the anti-freeze mechanism at the top (optional)

Run the roller shutter towards the upper stop. Then press the programming button until the drive clicks once.Then press the programming button, STOP button and UP button until the drive clicks three times.



7. Activating the fly screen protection function (optional)

Run the roller shutter to the upper limit position. Then press the programming button until the drive clicks once.Then press the programming button, STOP button and DOWN button until the drive clicks three times.

Note:

The drive moves in dead-man mode during the installation run (initial opening and closing movement). The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.

Type plate

❶ Type designation: e.g. R8-B01

R	Size of drive (tube diameter) P - 35mm R - 45mm
8	Rated torque
B	B-Tronic radio drive
01	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

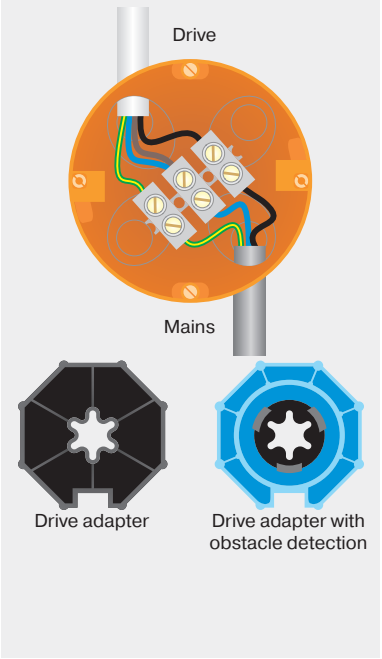
❸ Serial number: e.g. 14 43 60105

14	Year 2014
43	Calendar week
60105	Consecutive number

Wiring

Drives with electronic limit switching and integrated radio receiver are connected directly to the power supply. The brown wire and the blue wire together are connected to the neutral wire.

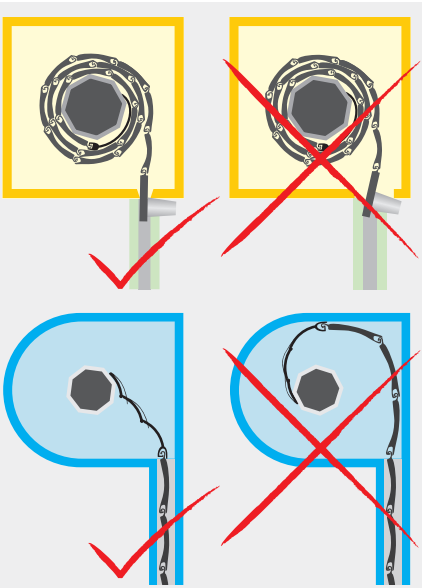
For the sensitive obstacle detection to be active, the drive adapter with object detection must be mounted on the drive.



Information

B01 drives with electronic limit switching detect and program the limit positions automatically if stops exist. If no stops exist, limit switch points are programmed.

In order for the drive to detect the upper limit position correctly, a defined stop must be present (angled strip or mechanical stop).

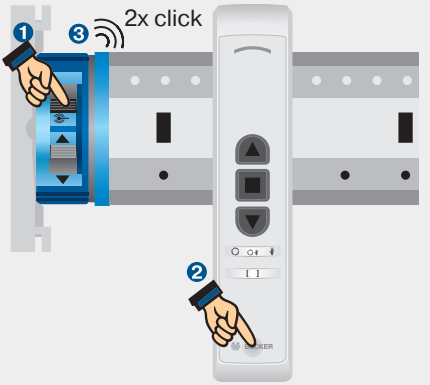


Installation with anti-lifting devices

The anti-lifting device must be securely engaged and be pressing the roller shutter onto the window sill.

Programming the transmitter

Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the required master transmitter ❷ until the drive clicks twice ❸.



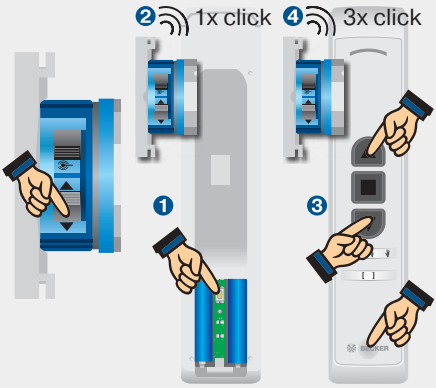
Correcting the direction of rotation

No limit positions may be programmed.

Via the switch on the drive: If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Via the transmitter: Press the master button ❶ under the battery compartment lid repeatedly until the drive clicks once.

Then press the programming button, UP button and DOWN button ❸ until the drive clicks three times ❹.



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Setting the limit positions

First, put the transmitter into master mode.

Press the master button under the battery compartment lid repeatedly until the drive clicks once.

1. Programming the upper limit position (in master mode)

Ⓐ **To upper stop**

Run the roller shutter towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the roller shutter to the desired upper position. Then press the programming button and the UP button until the drive clicks once.

2. Programming the lower limit position (in master mode)

Ⓐ **To lower stop**

Run the roller shutter down until the drive switches off automatically (the drive adapter for obstacle detection must be used for the installation with springs).

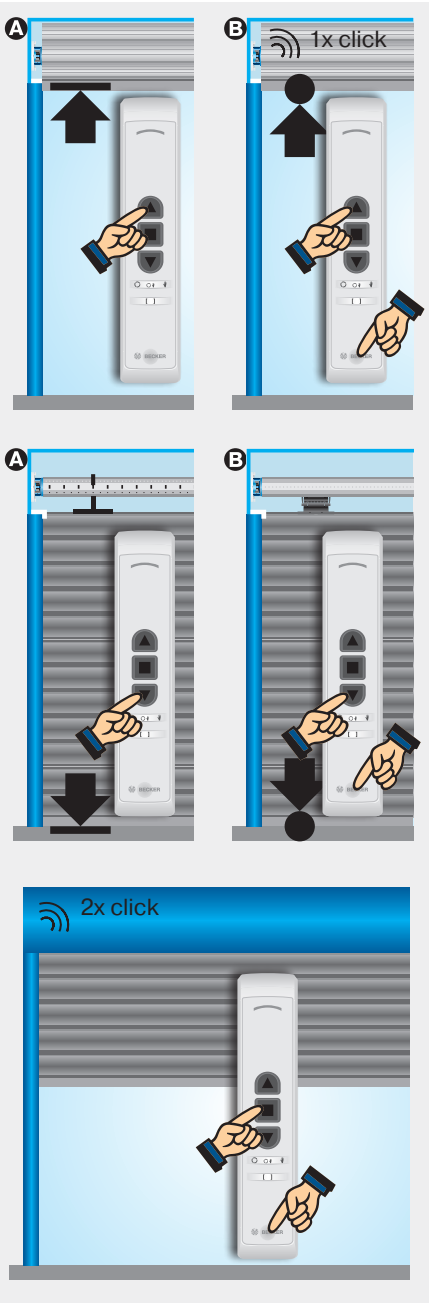
Ⓑ **To lower point**

Run the roller shutter to the desired position. Then press the programming button and the DOWN button until the drive clicks once.

3. Deleting the limit position (in master mode)

Press the programming button and the STOP button until the drive clicks twice.

If the roller shutter is situated between the limit positions, both limit positions are deleted in the procedure. If the roller shutter is situated in one of the limit positions, only this position will be deleted.



4. Activating the anti-freeze mechanism at the top (in master mode)

Run the roller shutter towards the upper stop. Then press the programming button until the drive clicks once.Then press the programming button, STOP button and UP button until the drive clicks three times.

5. Activating the fly screen protection function (in master mode)

Run the roller shutter to the upper limit position. Then press the programming button until the drive clicks once. Then press the programming button, STOP button and DOWN button until the drive clicks three times.

Leaving the master mode

Press the manual/auto button on the front of the transmitter until the manual/auto LED no longer flashes.

Note:

In master mode the drive runs in dead-man mode. The drive indicates the lack of a limit position by briefly starting up, stopping and then continuing (limit position status indicator). Once the limit positions have been detected correctly 3 times in succession (3 opening and closing movements), the drive definitively saves the limit positions.

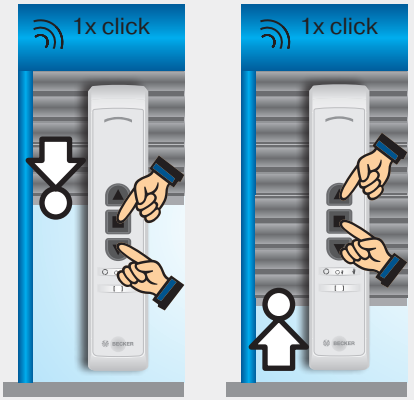
6. Programming the intermediate positions

Run the drive to the required position and press the STOP and DOWN buttons (intermediate position I) or STOP and UP buttons (intermediate position II) until the drive clicks once.

To travel to the corresponding intermediate position, press the DOWN button or UP button twice within one second (double tap).

7. Deleting an intermediate position

Run the drive to the position to be deleted and repeat the programming until the drive clicks twice.

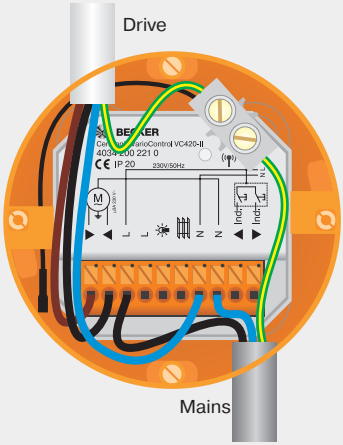


Commissioning

Wiring

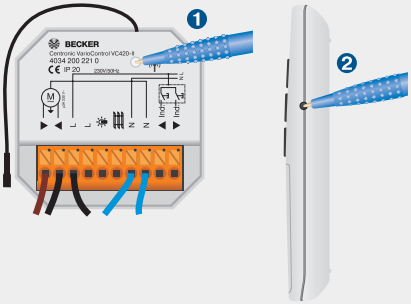
The external radio receiver VC420-II allows conventional drives to be converted to radio drives. An additional push-button input on the VC420-II enables operation via an external UP/DOWN push-button.

Connect the VC420-II as shown in the example beside.



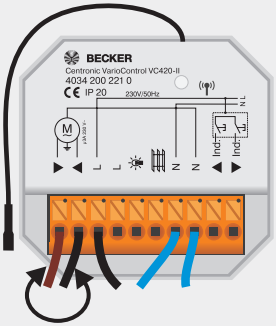
Programming the master transmitter

Briefly press the radio programming button or switch the power supply on for 3 minutes to put the control unit into programming mode ❶. Then press the programming button on the required master transmitter ❷ until the control unit confirms the programming operation with a brief UP/DOWN command (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).



Correcting the direction of rotation

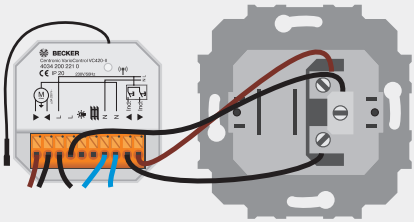
The direction can be reversed by swapping round the brown and black wires of the drive connecting cable.



Functions of the VC420-II

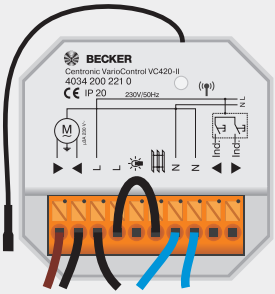
Individual inputs

An UP/DOWN button can be connected at the individual inputs. Press the button and keep it pressed for a time to trigger the UP/DOWN command. Press the button briefly to trigger a stop command. Press the UP/DOWN button briefly twice to move to the corresponding intermediate position.



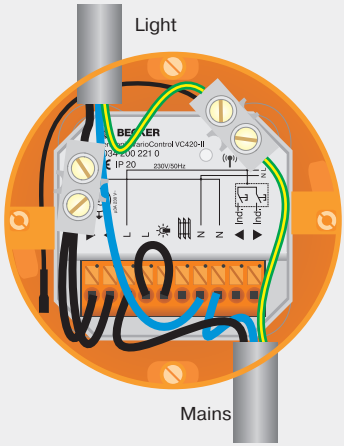
Changeover: Roller shutter/ Awning & Venetian blind modes

To change from the roller shutter/awning mode to venetian blind mode at the control unit, bridge the terminals L and ☰.



Changeover: Light controller/ drive controller

To change to light control mode at the control unit, bridge the terminals L and 💡. Switch-off does not occur after the running time following an UP or DOWN command. An UP or DOWN command switches the light on; a STOP command switches the light back off.

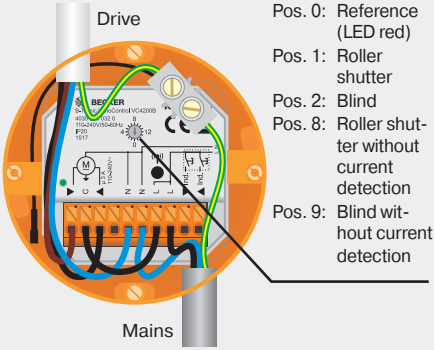


Commissioning

Connecting the drive controller

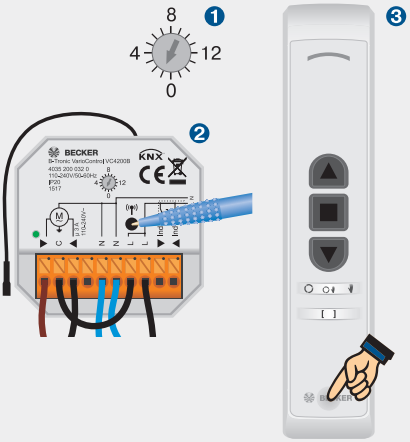
Conventional drives (tubular drives, blind drives) for roller shutter and sun protection applications can be connected to the bidirectional radio receiver VC4200B. The VC4200B uses current detection to automatically calculate the travel time between limit positions, and reports the position of the shading solution back to the transmitter or to CentralControl. To do so, once the shading solution has been installed it must be moved all the way to the limit positions three times without stopping.

Current detection is deactivated in function switch positions 8 (roller shutter) and 9 (blind). The travel time must be programmed in order for position information to be displayed in CentralControl. To do so, run the shading solution to the upper limit position in Master mode, and press the programming button and the UP button for 3 seconds. Then run the shading solution to the lower limit position and press the programming button and the DOWN button for 3 seconds.



Programming the transmitter

Switch the function switch to pos. 1 (Example: roller shutter) ❶. Then press the radio programming button for 3 seconds or switch the power supply on for 3 minutes to put the control unit into programming mode ❷. Then press the programming button on the required transmitter ❸ until the LED on the control unit lights up green to confirm the programming operation.



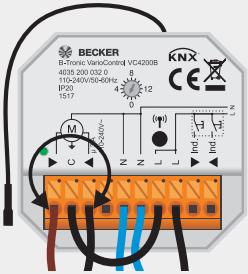
Note:

Before programming, the relevant function must also be set at the transmitter.

Functions

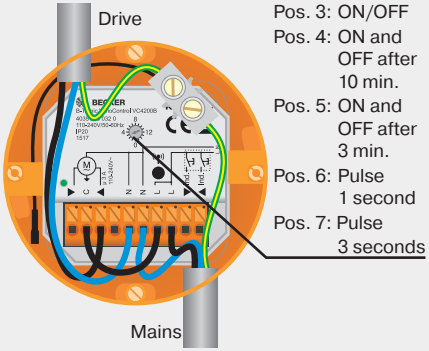
Correcting the direction of rotation

The direction can be reversed by swapping round the brown and black wires of the drive connecting cable. The direction can also be reversed using the Becker hand-held transmitter (see B01 drive type, adjusting the direction of rotation).



Connection of light controller/ radio switch

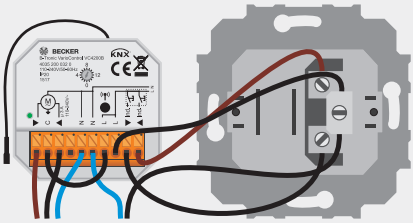
The VC4200B can be operated as a radio switch. The function switch must be put in the desired position before programming the transmitter.



Individual inputs

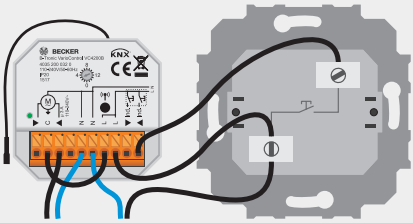
Function: Roller shutter/blind

An UP/DOWN button can be connected at the individual inputs. Press the button and keep it pressed for a time to trigger the UP/DOWN command. Press the button briefly to trigger a stop command. Press the UP/DOWN button briefly twice to move to the corresponding intermediate position.



Function: On/Off

A push-button can be connected to the individual input „Up“. When the push-button is pressed, the „Up“ output is switched on or off.

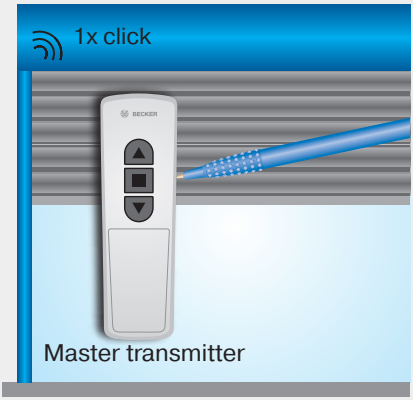


BECKER

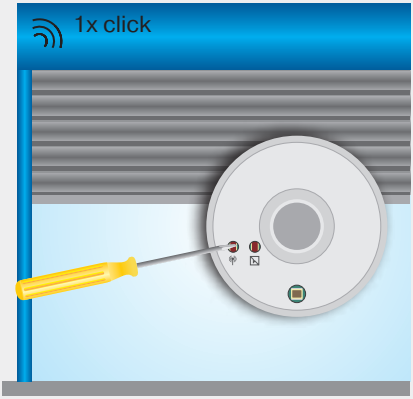
Commissioning the radio-controlled light sensor SC431-II

Programming the SC431-II

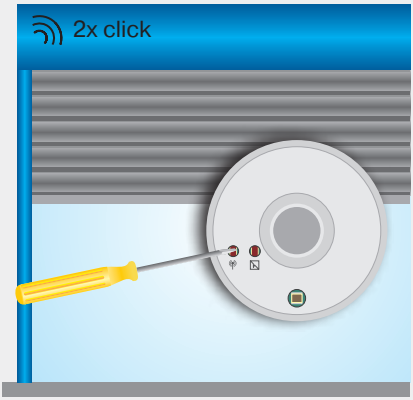
1. Press the programming button on the right-hand side of the master transmitter (the transmitter that was programmed first) until the receiver clicks once.



2. Now press the programming button of the SC431-II until the receiver clicks once.

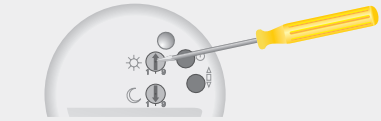


3. Now press the programming button of the SC431-II again, until the receiver clicks twice.



Setting the sun protection function

1. By turning the sun threshold regulator, you can adjust the the sun threshold setting with the aid of the indicator lamp.



LED green
Sun protection function is executed

LED red
Sun protection function is not executed

LED flashes yellow, rotary switch at position 0
Sun protection function is off

Setting the twilight function

2. By turning the twilight threshold regulator, you can adjust the the twilight threshold setting with the aid of the indicator lamp.

LED green
Twilight function is not executed

LED red
Below threshold
Twilight function is executed

LED flashes yellow
Rotary switch at position 0
Twilight function switched off

Manual/auto button

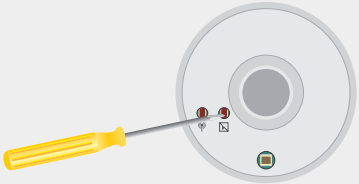
You can switch the automatic commands (sun protection and twilight function) on/off by pressing the manual-auto button.

Automatic off

Automatic on

Glass breakage function

Press the ⧅ button until the LED indicator lights up green. The glass breakage function is now active. Press the ⧅ button again to deactivate the glass breakage function. The LED indicator lights up red.



Drives for sun shading devices

Type M:
Drive with mechanical limit switching

Type S(+):
(1997-2003)
Drive with electronic limit switching

Type SF(+):
(2000-2003)
Drive with electronic limit switching and radio receiver (40 MHz)

Type PS(+):
(2000-2002)
Drive with electronic limit switching and point to point programming

Type SEB(+):
(2003-2016)
Drive with electronic limit switching and reversal (fabric stretching)

Type PSF(+):
(from 2005)
Drive with Centronic radio receiver (868.3 MHz), point to point programming

Type SEI1 / Type E16:
(from 2012 / from 2018)
Drive with electronic limit switching for locking systems

Type SEFI1 / Type C16:
(from 2012 / from 2018)
Drive with Centronic radio receiver (868.3 MHz) for locking systems

Type E18:

(from 2015)

Drive with electronic limit switching and sensitive obstacle detection for ZIP screens

Type C18:

(from 2015)

Drive with Centronic radio receiver (868.3 MHz) and sensitive obstacle detection for ZIP screens

Type E12:

(from 2017)

Drive with electronic limit switching, point to point programming and reversal (fabric stretching)

Type C12:

(from 2017)

Drive with Centronic radio receiver (868.3 MHz) and reversal (fabric stretching)

Type E15:

(from 2017)

Drive with electronic limit switching, point to point programming

Which type of sun protection drive has been installed?

The limit positions of the latest generation of drives with electronic limit switching can be deleted and redefined via the existing control panel. To do this, proceed as follows:

First, run the drive for 6 seconds in the retract or extend direction.

Then perform the travel movements described opposite to delete the limit positions. If the drive then clicks twice, it is one of the following types: E18, E12 or E15.

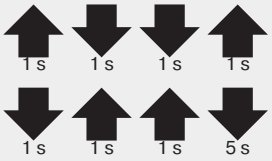
If the drive is installed in a zip screen, it is an E18 type drive.

To identify the types E12 and E15, move the drive in any direction.

If the drive stops after roughly 3 seconds then continues running, it is an E15 type drive.

If the drive stops after roughly 10 seconds then continues running it is an E12 type drive.

Deleting the limit positions



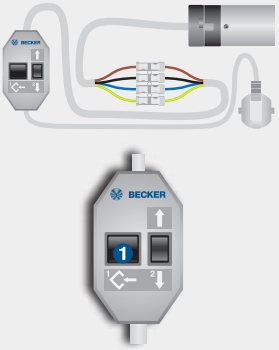
All other drives can be identified via the programming unit. Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.

Press the programming button ❶ for 2 seconds.

If the drive produces a loud noise and the tube does not turn, the drive is a type M. Replace the programming unit immediately with one that is suitable for an M drive.

If the drive does not react or clicks once or twice, it is an S(+), PS(+), SEB(+), SE I1, SEF I1, SF(+), PSF(+), C16, C12 or C18 drive type.

Press the travel button in both directions.



If the drive does not react, it is an SF(+) (until 2002), PSF(+) (2003 to 2017), SEFI1 (from 2012), C18 (from 2017), C12 (from 2017) oder C16 (from 2018) drive type with integrated radio receiver.

If the system is equipped with a locking system and the drive does not react, it is an C16 or SEF I1 or E16 or SE I1 if the drive does react.

If the drive is installed in a zip screen, it is a Typ C18 drive.

Run the shading solution in the extend direction ❶ and press the programming button again ❷ for 2 seconds.

If the drive does not react or if it clicks once, move the shading solution in the retract direction until the drive stops at the limit position stop or at a pre-programmed switch-off point. If the drive clicks twice, press the programming button again until the drive clicks once. Then retract the shading solution until the drive stops at the limit position stop or at a pre-programmed switch-off point.

Both limit positions are now programmed in the drive.

Press the programming button again ❶ ffor 2 seconds. If the drive clicks twice, it is an S(+) (until 2003).

If the drive does not react, it is a PS(+) or SEB(+) type.

Press the travel and programming button to run the the deletion sequence:

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

Press the programming button ❶ for 2 seconds twice consecutively.

If the drive clicks once and then twice, it is a SEB(+) (from 2003).

If the drive clicks only once, it is a PS(+) (from 2003).

Type plate

❶ Type designation: e.g. R 8/17 C M

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
8/17	Rated torque/output speed
C	Pluggable connecting cable
M	Mechanical limit switching

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

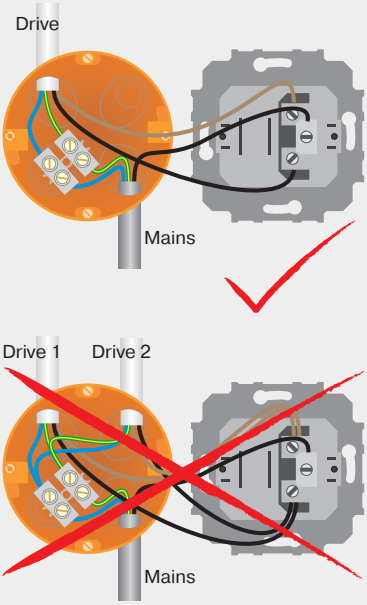
❸ Serial number: e.g. 08 40 961630

08	Year 2008
40	Calendar week
961630	Consecutive number

Wiring

Drives with mechanical limit switching must not be connected in parallel to a control point. Discharge of the capacitor could damage the limit switches. This would cause the limit positions to be “overrun”.

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous retract and extend commands.



Information

Before installation, make sure that the drive adapter safety catch has engaged (is screwed tight).

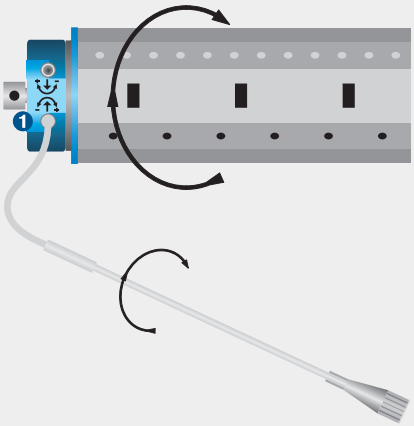
Mark the position of the drive adapter on the tube and drill a 4-mm hole at this point.

Secure the drive adapter against axial displacement in the tube using a screw or a rivet.

The arrow on the drive head indicates the direction of rotation ❶. The limit position is set via the corresponding adjuster using the flexible setting tool (item no. 4933 200 002 0).

Turning in the + direction increases the range; turning in the - direction reduces it.

The barrel may not be turned more than 38 revolutions in one direction.

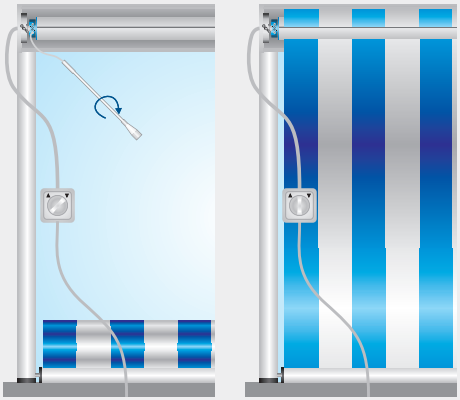


Setting the limit positions

1. Setting the extend limit position

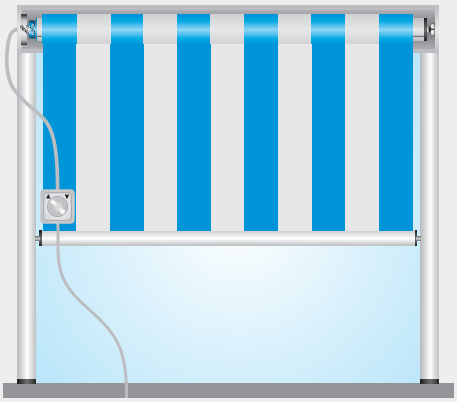
After the tube is installed, move the drive in the extend direction until it stops automatically. Using the flexible setting tool, turn the corresponding adjuster in the + direction (clockwise) until the tube is in a suitable position for connecting the shading solution to the tube.

Connect the shading solution to the tube.

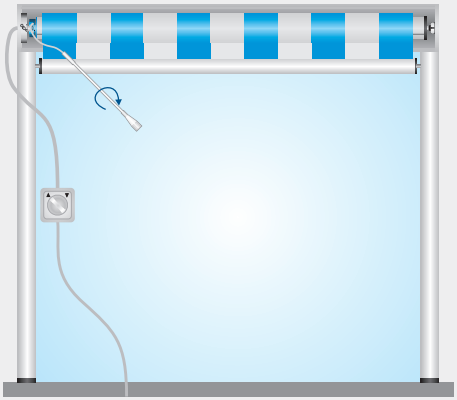


Retract the shading solution until the drive switches off automatically via the limit switch for the retract limit position.

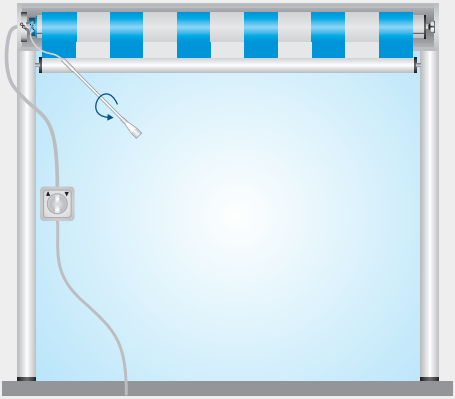
Note: When delivered (from the factory), the limit switch range is preset to 2 revolutions in the retract and extend directions. While retracting, the drive switches off after 4-5 revolutions.



Turn the corresponding adjuster in the + direction (clockwise) using the flexible setting tool until the shading solution is in the retract limit position.

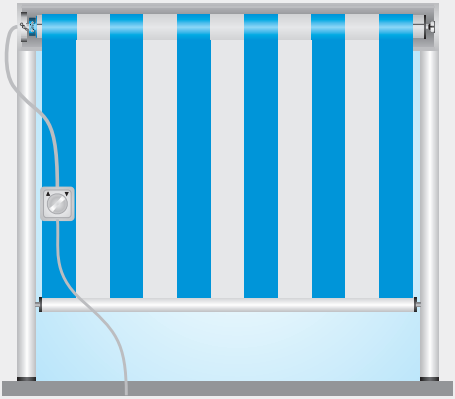


Switch off the retracting mechanism. Using the flexible setting tool, turn the adjuster for the extend limit position 3-10 revolutions in the - direction (depending on how many times the fabric is wrapped around the tube when the shading solution is extended).

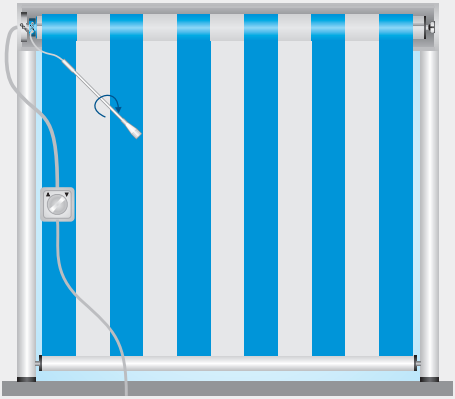


2. Setting the retract limit position

Run the shading solution in the extend direction until the drive switches off automatically when the limit switch for the extend limit position is reached.



Using the flexible setting tool, turn the adjuster for the extend limit position in the + direction (clockwise) until the desired extend position is reached.



Type plate

❶ **Type designation: e.g. R 20/17 S+**

R	Size of drive (tube diameter) R - 45mm L - 58mm
20/17	Rated torque/output speed
S	Electronic limit switching for sun protection
+	Higher closing force for cassette awnings

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 05 48 50572**

05	Year 2005
48	Calendar week
50572	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

The changeover time for switching the running direction must be at least 0.5 seconds.

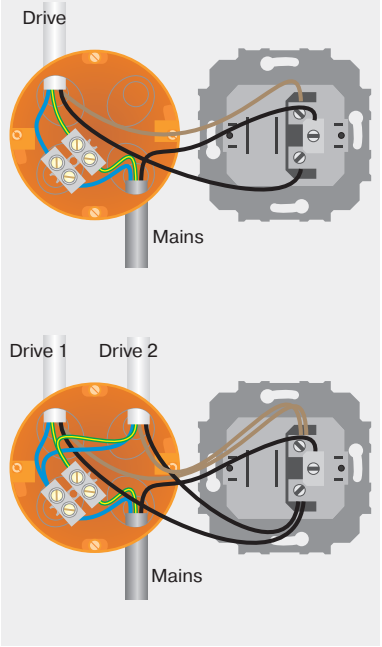
The switch and controls must not execute simultaneous retract and extend commands.

The following applies to operator controls with a 5A contact load rating:

R8/17 S - R12/17 S(+) =
max. 5 drives

R20/17 S(+) - R60/17 S(+) =
max. 3 drives

L70/17 S(+) - L120/11 S(+) =
max. 2 drives



Information

S(+) drives with electronic limit switching detect and program the retract limit position automatically if a permanent stop exists.

S drives

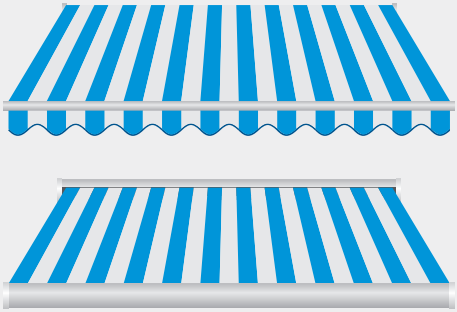
S drives are used to operate screens, awnings and conservatory shading.

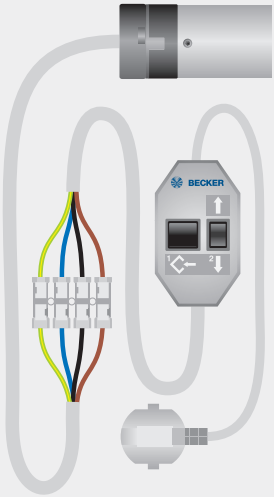
S+ drives

S+ drives are used to operate cassette awnings that require a higher closing torque. The cassette is always closed completely.

The limit positions can be set via the programming unit.

Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



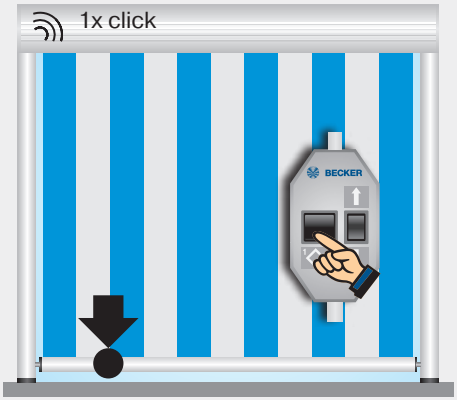


Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

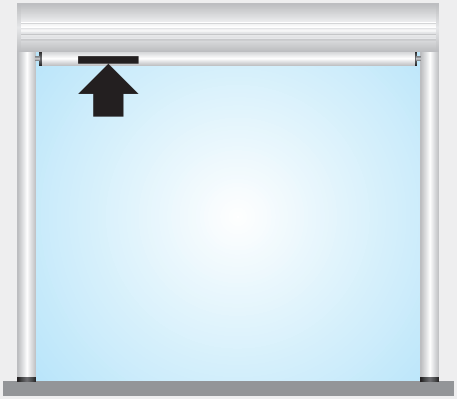
Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

Run the shading solution to the desired position and press the programming button until the drive clicks once



2. Programming the retract limit position with the programming unit

Run the shading solution towards the upper stop until the drive stops automatically.



3. Deleting the limit positions using the programming unit

Press the programming button on the programming unit until the drive clicks twice.

Type plate

❶ Type designation: e.g. R 30/17 C PS+

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
30/17	Rated torque/output speed
C	Pluggable connecting cable
P	Point to point programmable
S	Electronic limit switching for sun protection
+	Higher closing force for cassette awnings

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 09 01 961657

09	Year 2009
01	Calendar week
961657	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

The changeover time for switching the running direction must be at least 0.5 seconds.

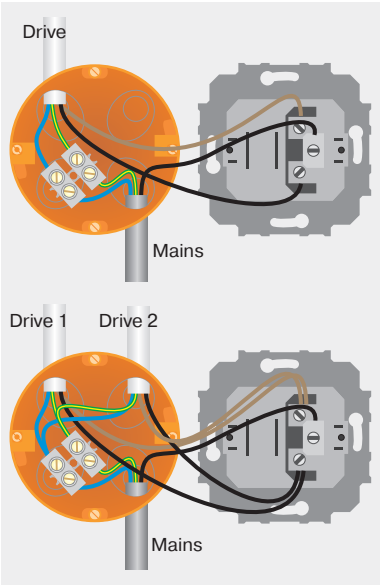
The switch and controls must not execute simultaneous retract and extend commands.

The following applies to operator controls with a 5A contact load rating:

R5/20 PS - R12/17 C PS(+) =
max. 5 drives

R20/17 C PS(+) - R60/17 C PS(+) =
max. 3 drives

L70/17 C PS(+) - L120/11 C PS(+) =
max. 2 drives



Information

PS(+) drives with electronic limit switching detect and program the retract limit position automatically if a permanent stop exists.

If no stop exists, a limit switch-off point is programmed.

PS drives

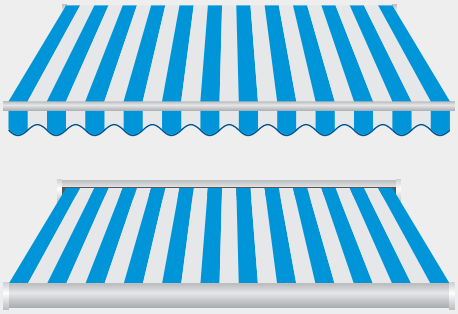
PS drives are used to operate screens, awnings and conservatory shading.

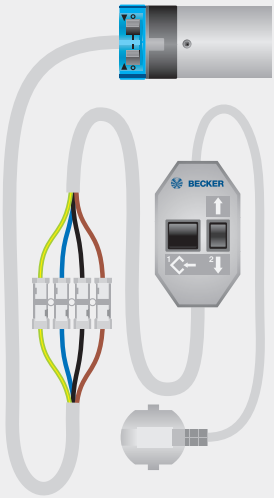
PS+ drives

PS+ drives are used to operate cassette awnings that require a higher closing torque. The cassette is always closed completely.

The limit positions can be set using the programming unit or the switch on the drive head.

Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.





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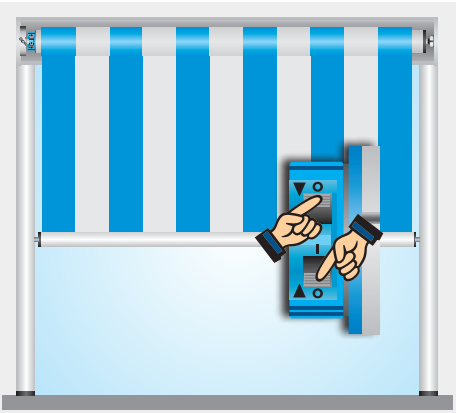
Setting the limit positions with the switches

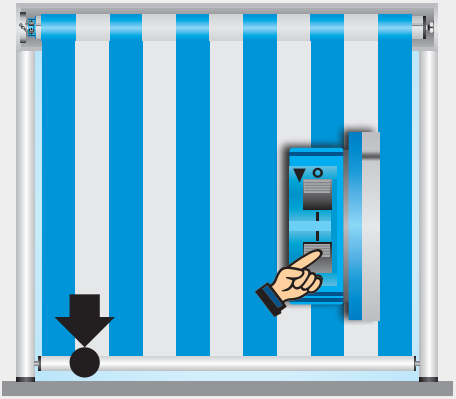
1. Deleting both limit positions with the switches

Set both switches to O and execute a short drive command.



2. Programming the extend limit position

Run the shading solution to the desired position and change the corresponding switch from O to I.



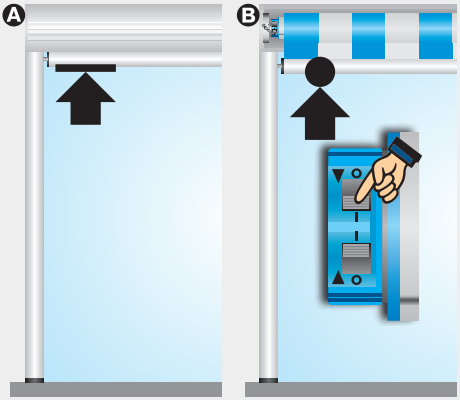
3. Programming the retract limit position

Ⓐ **Retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired position and change the corresponding switch from O to I.



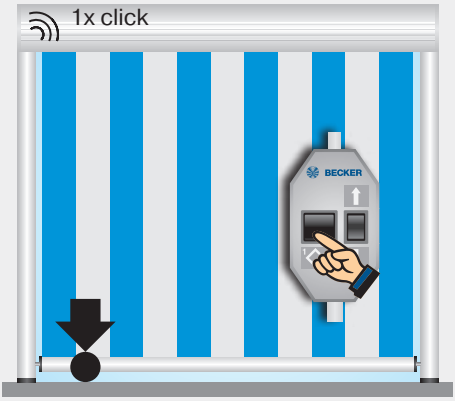
Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

At least one switch on the drive head must be in the I position.

Run the shading solution to the desired position and press the programming button until the drive clicks once.



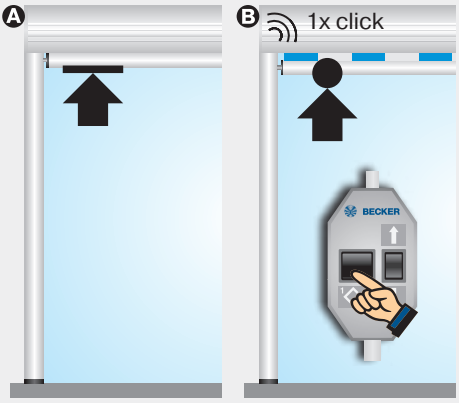
2. Programming the retract limit position with the programming unit

Ⓐ **To retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

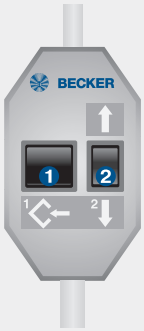
Run the shading solution to the desired upper position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



Type plate

❶ **Type designation: e.g. R 30-17-E15**

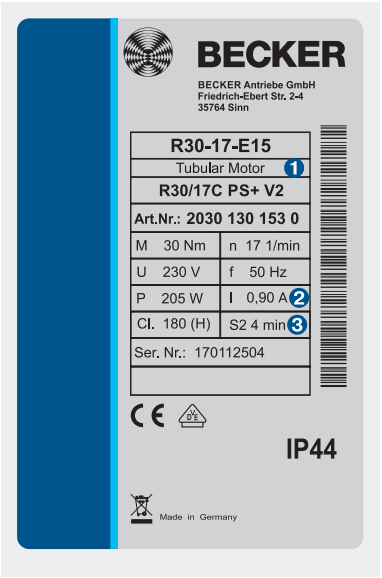
R	Size of drive (tube diameter) R - 45mm L - 58mm
30-17	Rated torque/output speed
E	Electronic limit switch
15	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 17 01 12504**

17	Year 2017
01	Calendar week
12504	Consecutive number



Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

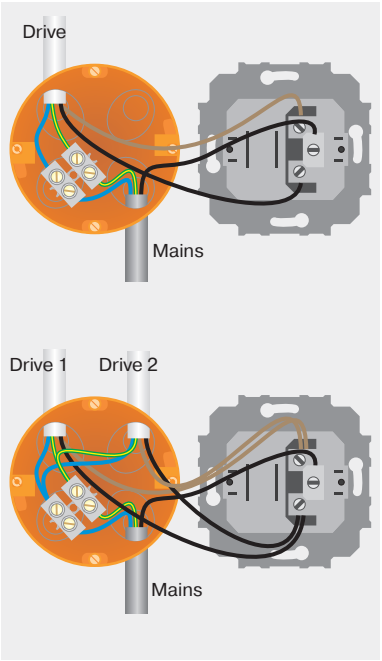
The following applies to operator controls with a 5A contact load rating:

R8-17-E15 bis R12-17-E15 =
max. 5 drives

R20-17-E15 bis R60-17-E15 =
max. 3 drives

L70-17-E15 bis L120-11-E15 =
max. 2 drives

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous retract and extend commands.



Information

Stop behaviour

The E15 can be switched between increased and reduced stop behaviour.

Increased stop behaviour with cassette awnings

Reduced stop behaviour with open awnings, screens, etc.

Setting the limit positions

The limit positions can be set in 2 different ways:

❶. Programming unit

❷. Operator control unit

Setting the stop behaviour

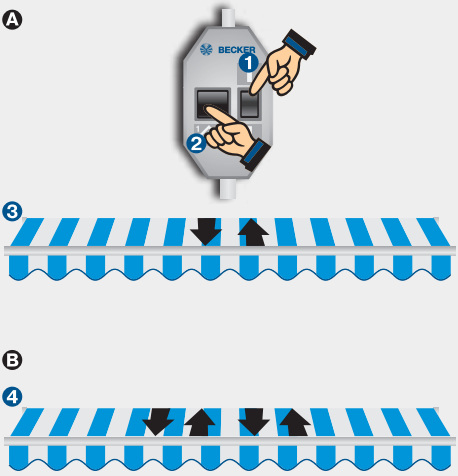
On delivery, the 45 diameter and 58 diameter drive types have an increased stop behaviour. The stop behaviour can only be changed during the first 3 runs towards the upper stop.

Ⓐ Switching on reduced stop behaviour

Move the shading solution in the retract direction ❶ and also press the programming button before it reaches the upper limit position ❷. Keep holding both buttons pressed until the shading solution confirms the changeover by extending and retracting once ❸.

Ⓑ Switching on increased stop behaviour

Repeat the procedure under Ⓐ until the drive confirms the changeover by extending and retracting twice ❹.

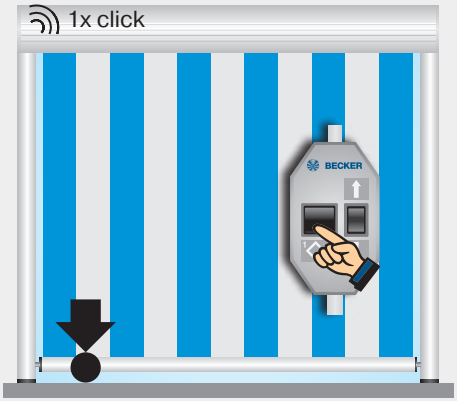


Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

Run the shading solution to the desired position and press the programming button until the drive clicks once.



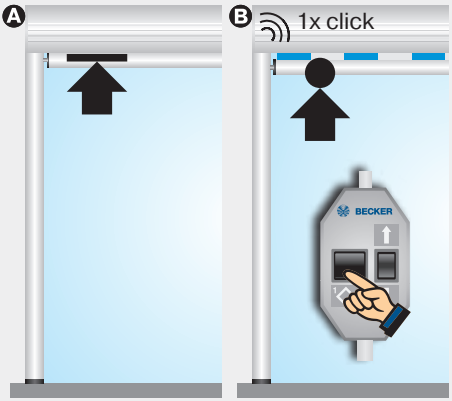
2. Programming the retract limit position with the programming unit

Ⓐ **To retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired upper position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

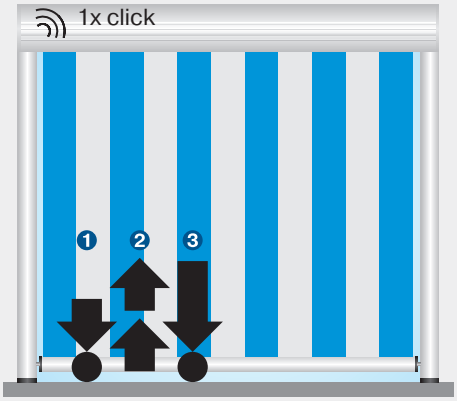
If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted. In terms of special functions, the drive reverts to the as-delivered condition.

Setting the limit positions using the operator control

1. Setting the extend limit position using the operator control

To lower point

Run the shading solution to the lower limit position ❶. Now move the shading solution up briefly twice, waiting for 1 second in between movements, ❷ then back down until the drive stops automatically and clicks once after 3 seconds ❸.



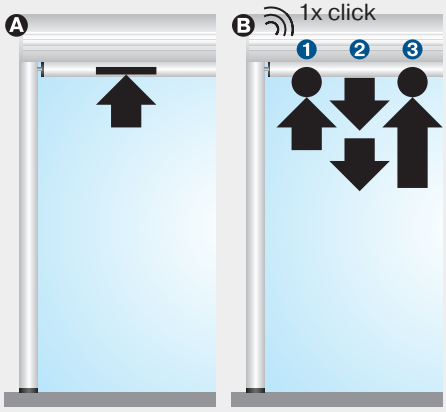
2. Setting the retract limit position using the operator control

Ⓐ **To upper stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the shading solution to the upper limit position ❶. Then move the shading solution in the extend direction briefly twice, waiting for 1 second between movements, ❷ then in the retract direction until the drive stops automatically and clicks once after 3 seconds ❸.

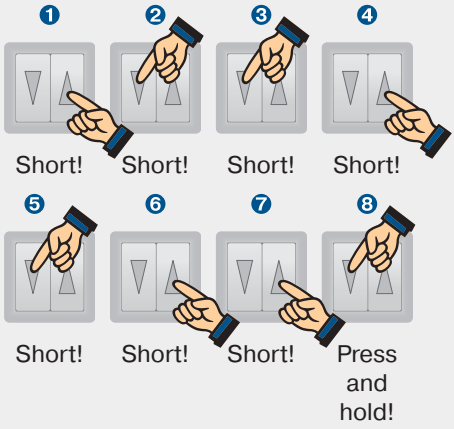


3. Deleting the limit positions using the operator control

Run the drive for 6 seconds in the retract or extend direction.

Then run through steps ❶ to ❽ of the deleting sequence shown beside at one second intervals until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be issued after every short drive command.



Type plate

❶ Type designation: e.g. R30-17-E12

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
30-17	Rated torque/output speed
E	Electronic limit switch
12	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 17 03 0151

17	Year 2017
03	Calendar week
0151	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

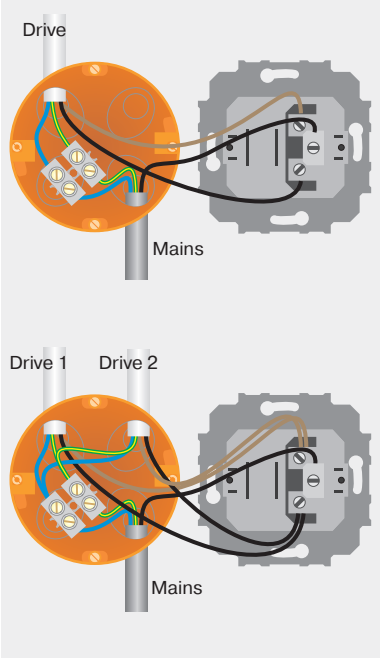
The following applies to operator controls with a 5A contact load rating:

R8-17-E12 bis R12-17-E12 =
max. 5 drives

R20-17-E12 bis R60-17-E12 =
max. 3 drives

L70-17-E12 bis L120-11-E12 =
max. 2 drives

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous retract and extend commands.



Information

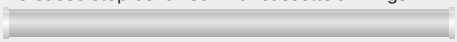
Autoinstall

The E12 can automatically detect and program the optimum maximum Extend limit position for articulated-arm and cassette awnings via the Autoinstall function.

Stop behaviour

The E12 can be switched between increased and reduced stop behaviour.

Increased stop behaviour with cassette awnings



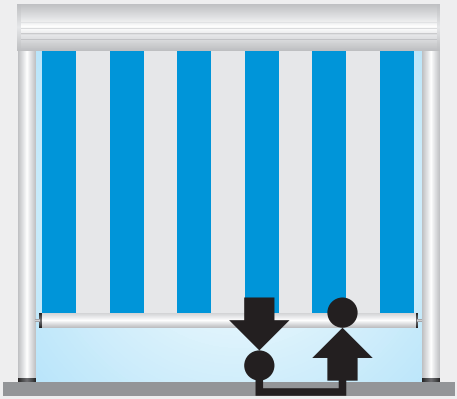
Reduced stop behaviour with open awnings, screens, etc.

Fabric untensioning

When the fabric untensioning is active, the drive moves slightly downwards once it reaches the upper limit position in order to relieve the strain on the fabric.

Fabric stretching function

A programmable fabric stretching function ensures the fabric is pulled taut after extending to the lower limit position.



Setting the limit positions

The limit positions can be set in 3 different ways:

❶. Switch on the drive

❷. Programming unit

❸. Operator control unit

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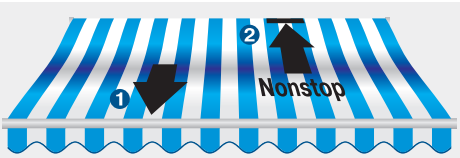
Setting the limit positions via Autoinstall

Ⓐ Autoinstall with articulated arm and cassette awnings

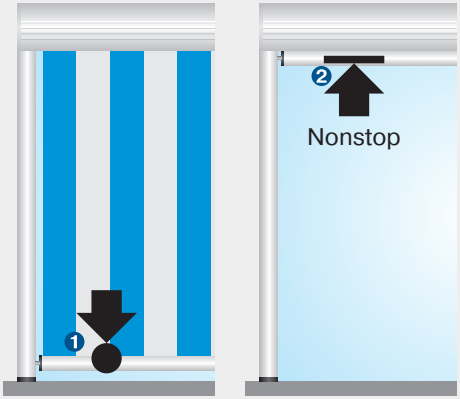
Run the shading solution in the extend direction until it passes the extend limit position and the fabric is resting on the articulated arms ❶.

Then run the shading solution without stopping in the retract direction until it stops automatically at the upper stop ❷.



Ⓑ Autoinstall (freely selectable point at the bottom up to upper stop)

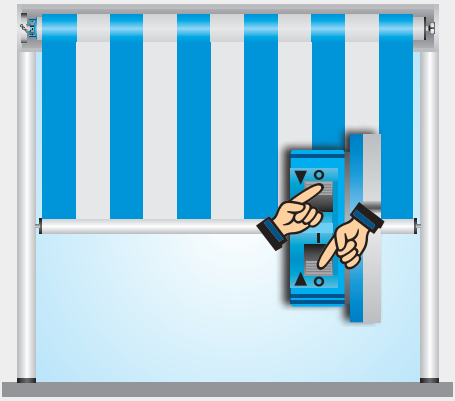
Run the shading solution to the desired extend limit position ❶. Then run the shading solution without stopping in the retract direction until it stops automatically at the upper stop ❷.



Setting the limit positions with the switches

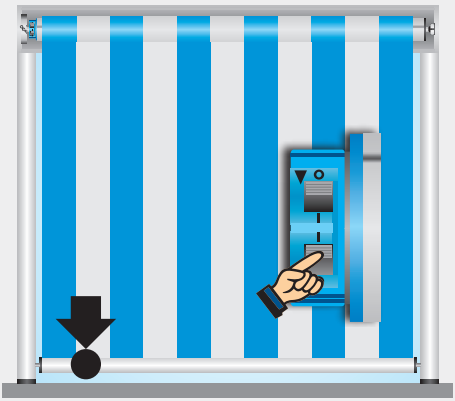
1. Deleting both limit positions with the switches

Set both switches to **O** and execute a short drive command.



2. Programming the extend limit position

Run the shading solution to the desired position and change the corresponding switch from **O** to **I**.



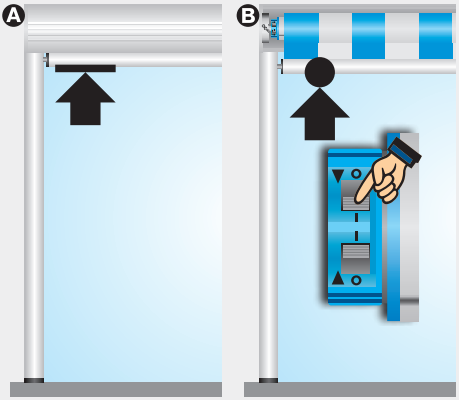
3. Programming the retract limit position

Ⓐ **Retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired position and change the corresponding switch from **O** to **I**.



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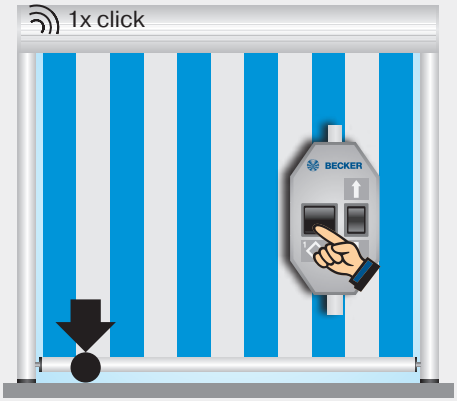
Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

At least one switch on the drive head must be in the I position. Run the shading solution to the desired position and press the programming button until the drive clicks once.



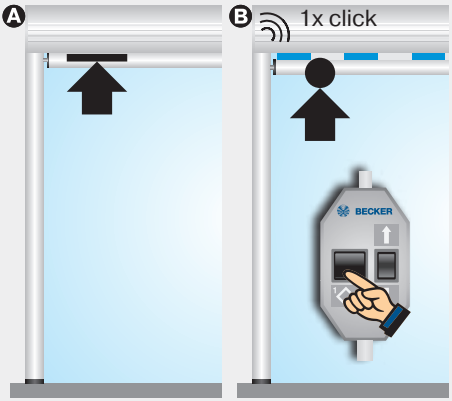
2. Programming the retract limit position with the programming unit

Ⓐ **To retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired upper position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ↓ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted. In terms of special functions, the drive reverts to the as-delivered condition.

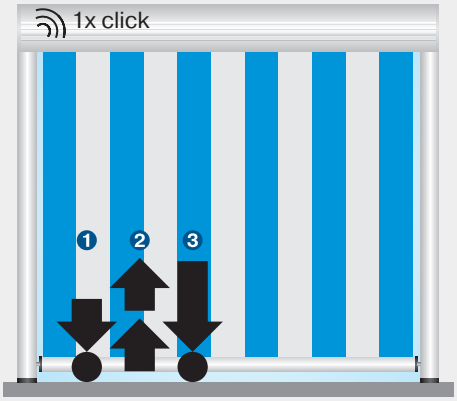
Setting the limit positions using the operator control

1. Setting the extend limit position using the operator control

At least one switch on the drive head must be in the I position.

To lower point

Run the shading solution to the lower limit position ❶. Now move the shading solution up briefly twice, waiting for 1 second in between movements, ❷ then back down until the drive stops automatically and clicks once after 3 seconds ❸.



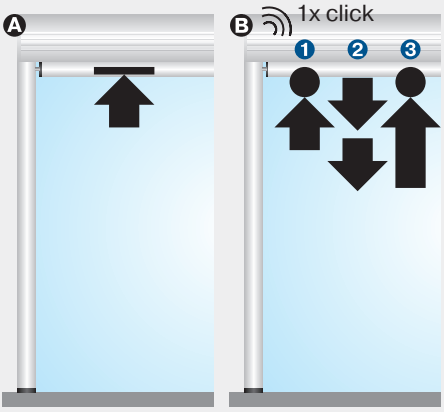
2. Setting the retract limit position using the operator control

Ⓐ **To upper stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To upper point**

Run the shading solution to the upper limit position ❶. Then move the shading solution in the extend direction briefly twice, waiting for 1 second between movements, ❷ then in the retract direction until the drive stops automatically and clicks once after 3 seconds ❸.

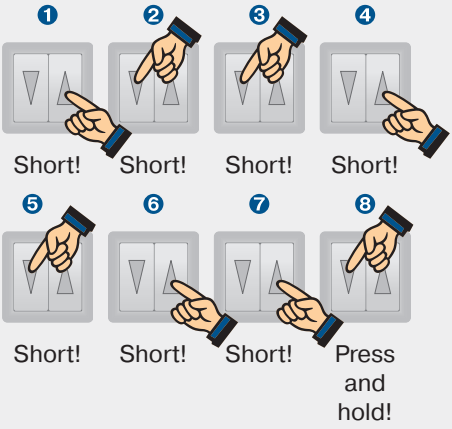


3. Deleting the limit positions using the operator control

Run the drive for 6 seconds in the retract or extend direction.

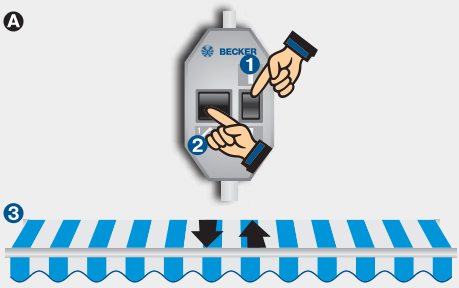
Then run through steps ❶ to ❽ of the deleting sequence shown beside at one second intervals until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be issued after every short drive command.



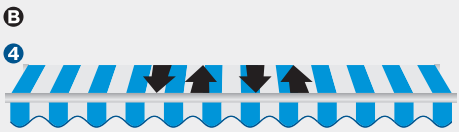
Setting the stop behaviour

On delivery, the 35 diameter drive types have a reduced stop behaviour, and the 45 diameter and 58 diameter drive types have an increased stop behaviour. The stop behaviour can only be changed during the first 3 runs towards the upper stop.



Ⓐ Switching on reduced stop behaviour

Move the shading solution up ❶ and also press the programming button before it reaches the upper limit position ❷. Keep holding both buttons pressed until the shading solution confirms the changeover by extending and retracting once ❸.



Ⓑ Switching on increased stop behaviour

Repeat the procedure under Ⓐ until the drive confirms the changeover by extending and retracting twice ❹.

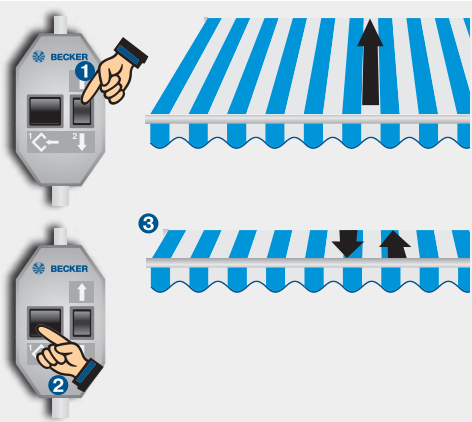
Setting the special function fabric untensioning

1. Activating/deactivating the fabric untensioning function

On delivery, the fabric untensioning function is deactivated on drive types with a diameter of 35 mm, and is activated on drive types with diameters of 45 mm and 58 mm.

Run the shading solution towards the upper stop ❶.

Press the programming button ❷, until the drive confirms activation or deactivation of the fabric untensioning ❸.

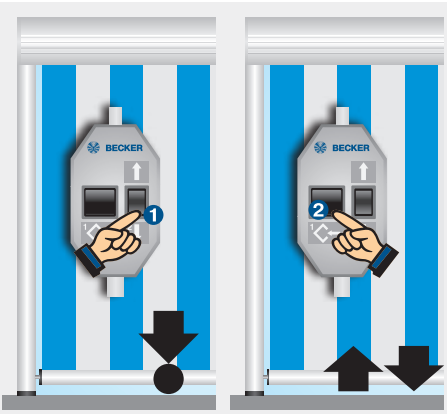


Setting the special function fabric stretching

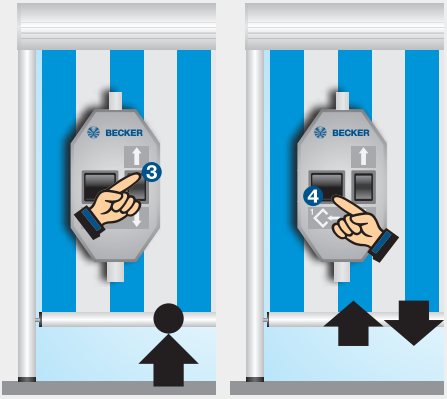
1. Activating the fabric stretching function

Run the shading solution to the extend limit position ❶.

Then press the programming button until the drive confirms by retracting and extending ❷.

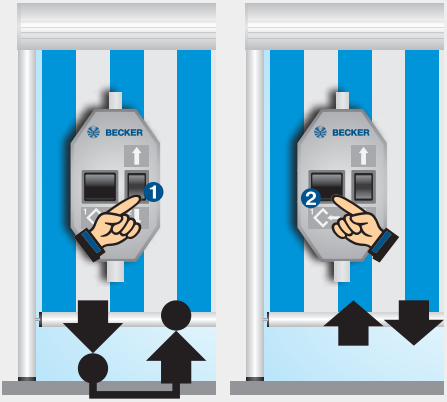


Then move the shading solution to the fabric stretching position ❸ and press the programming button again until the drive confirms by retracting and extending ❹.



2. Deactivating the fabric stretching function

Move the shading solution to the fabric stretching position ❶ and press the programming button until the drive confirms by retracting and extending ❷.



Type plate

❶ Type designation: e.g. R 40/17 SE-B+

R	Size of drive (tube diameter) R - 45mm L - 58mm
40/17	Rated torque/output speed
S	Electronic limit switching for sun protection
E-B	Automatic fabric stretching in the extend limit position
+	Higher closing force for cassette awnings

❷ Operating mode (short-period operation S2)
After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 08 50 20130

08	Year 2008
50	Calendar week
20130	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

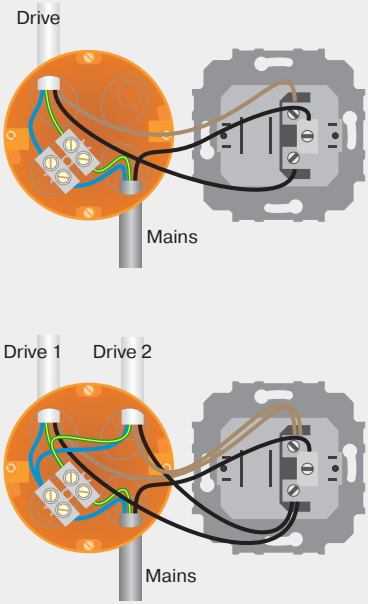
The changeover time for switching the running direction must be at least 0.5 seconds.

The switch and controls must not execute simultaneous retract and extend commands.

The following applies to operator controls with a 5A contact load rating:

R20/17 SE-B(+) - R60/17 SE-B(+) = max. 3 drives

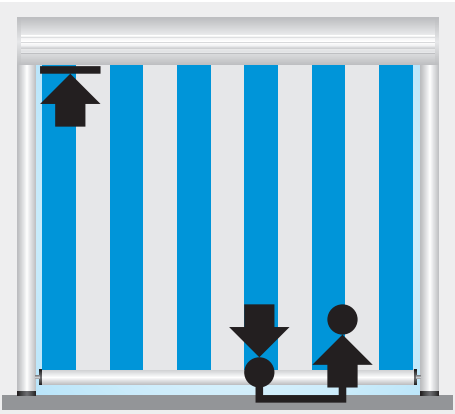
L70/17 SE-B(+) - L120/11 SE-B(+) = max. 2 drives



Information

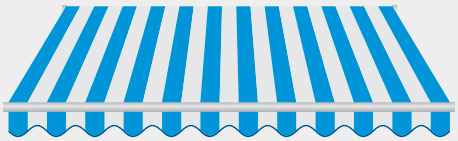
SE-B(+) drives with electronic limit switching detect and program the Retract limit position automatically. A fixed stop must be available in the retract limit position.

An automatic reversal function in the extend limit position ensures that the fabric is stretched.



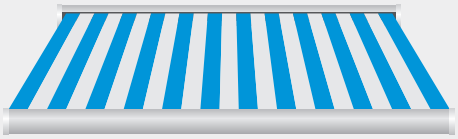
SE-B drives

SE-B drives are used to operate screens, awnings and conservatory shading.



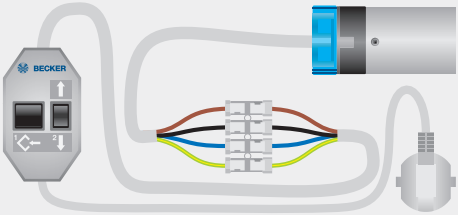
SE-B+ drives

SE-B+ drives are used to operate cassette awnings that require a higher closing torque. The cassette is always closed completely.



The limit positions can be set via the programming unit.

Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.



Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

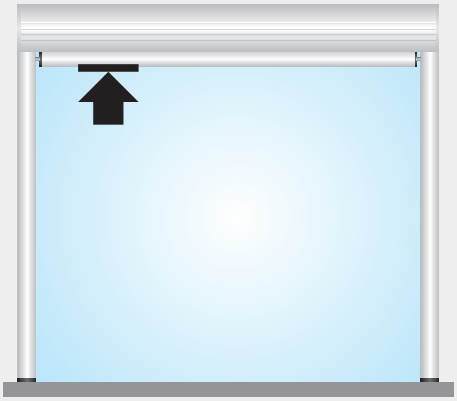
Connect the wires of the tubular drive to those of the same colour in the programming unit.

Run the shading solution to the desired position and press the programming button until the drive clicks once.

Note: If the drive clicks twice, an Extend limit position had already been saved, which has now been deleted. In this case, press the programming button again until you hear one click.

2. Programming the retract limit position with the programming unit

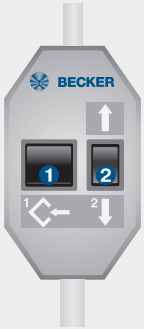
Run the shading solution towards the upper stop until the drive stops automatically.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



Type plate

❶ **Type designation: e.g. R12-17-E18**

R	Size of drive (tube diameter) P - 35mm R - 45mm
12-17	Rated torque/output speed
E	Electronic limit switch
18	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ **Serial number: e.g. 16 35 0216**

16	Year 2016
35	Calendar week
0216	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

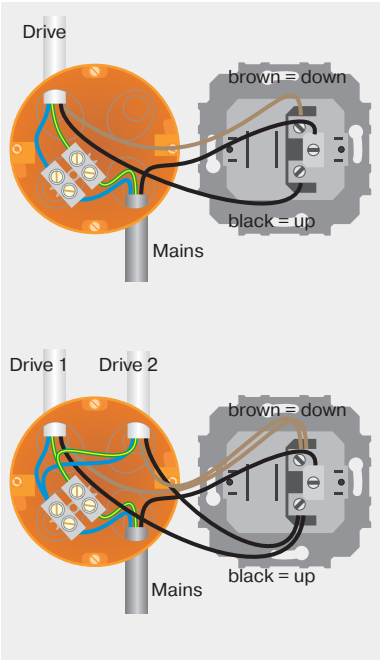
The following applies to operator controls with a 5A contact load rating:

R8-17-E18 to R12-17-E18 =
max. 5 drives

R20-17-E18 to R40-17-E18 =
max. 3 drives

The changeover time for switching the running direction must be at least 0.5 seconds. The switch and controls must not execute simultaneous retract and extend commands.

After programming the limit positions, the drive changes its direction of movement if necessary, such that a switch of the black wire always causes an upward movement and a switch of the brown wire always causes a downward movement.



Information

Obstacle detection

In order to avoid uncontrolled unwinding of the shading solution, obstructions in the DOWN direction are detected (such as wind load).

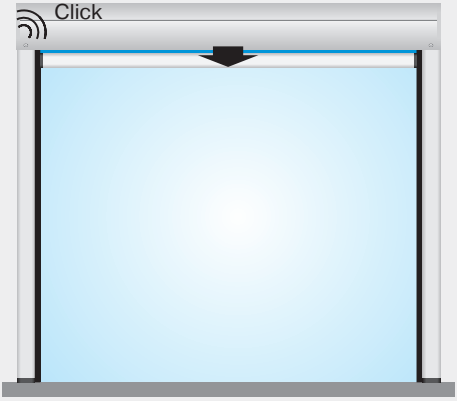
For the sensitive obstacle detection to become active, the drive adapter with obstacle detection must be fitted on the drive and the shading solution must have a heavy end strip.

Drive adapter

Drive adapter with obstacle detection

Fabric untensioning

When the fabric untensioning is active, the drive moves slightly downwards once it reaches the upper limit position in order to relieve the strain on the fabric.



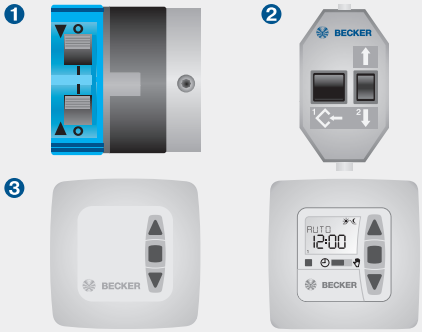
Setting the limit positions

The limit positions can be set in 3 different ways:

❶. Switch on the drive

❷. Programming unit

❸. Operator control unit



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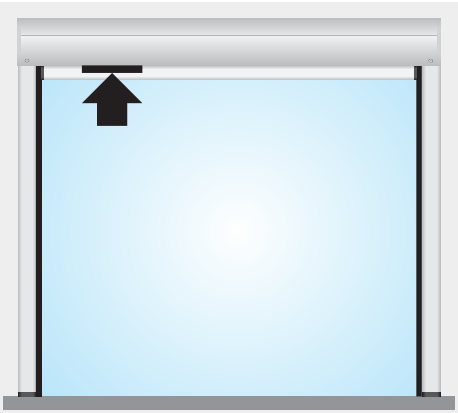
Setting the limit positions via Autoinstall

1. Programming the retract limit position

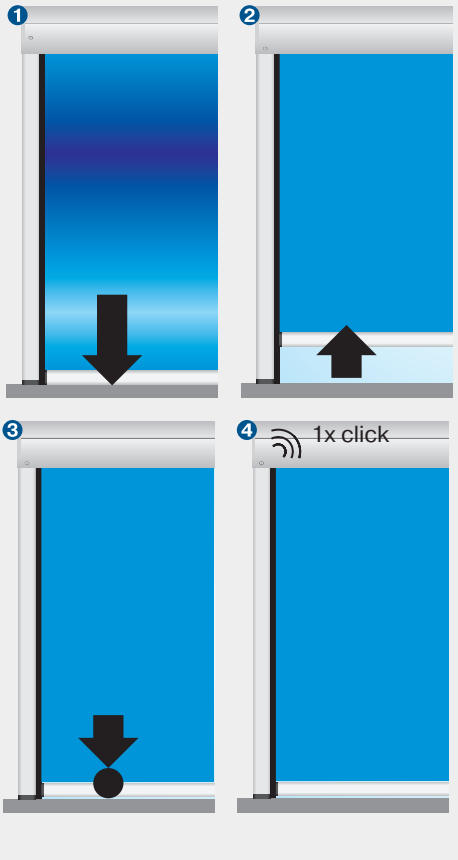
At least one switch on the drive head must be in the I position.

Run the shading solution towards the stop until the drive stops automatically.



2. Programming the extend limit position

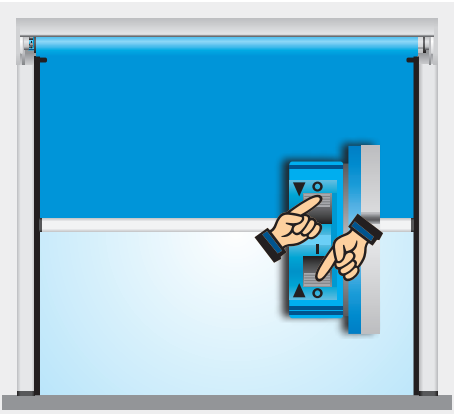
Travel downwards and keep the travel button pressed, until the drive moves past the Extend limit position ❶, then moves upwards ❷ and then downwards ❸, in order to finally stop in the Extend limit position and to confirm the programming procedure with a click ❹.



Setting the limit positions with the switches

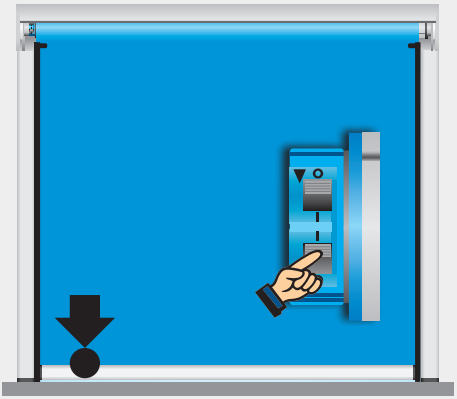
1. Deleting both limit positions with the switches

Set both switches to O and execute a short drive command.



2. Programming the extend limit position

Run the shading solution to the desired position and change the corresponding switch from O to I.



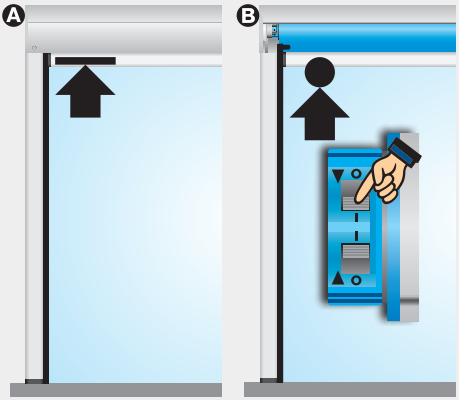
3. Programming the retract limit position

Ⓐ **Retract limit position stop**

Run the shading solution towards the stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired position and change the corresponding switch from O to I.



Setting the limit positions using the programming unit

1. Programming the extend limit position with the programming unit

Connect the wires in the connecting cables of the drive to the wires of the same colour in the Becker programming unit.

At least one switch on the drive head must be in the I position. Run the shading solution to the desired position and press the programming button until the drive clicks once.

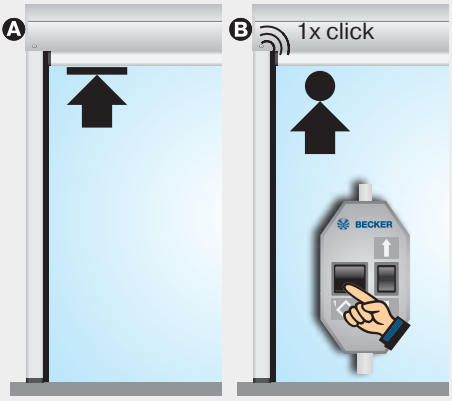
2. Programming the retract limit position with the programming unit

Ⓐ **To retract limit position stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired upper position and press the programming button on the programming unit until the drive clicks once.



3. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ↓ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

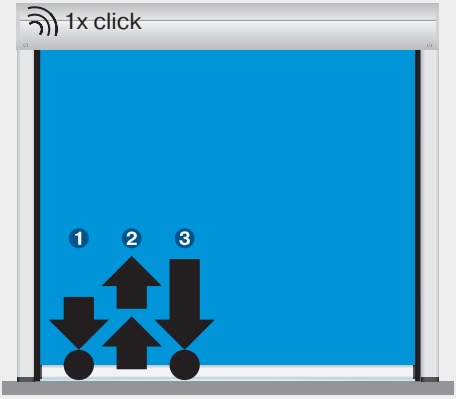
If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted. In terms of special functions, the drive reverts to the as-delivered condition.

Setting the limit positions using the operator control

1. Programming the extend limit position using the operator control

At least one switch on the drive head must be in the **I** position.

Run the shading solution to the lower limit position ❶. Now move the shading solution in the retract direction briefly twice, waiting for 1 second in between movements, ❷ then in the extend direction again until the drive stops automatically and clicks once after 3 seconds ❸.



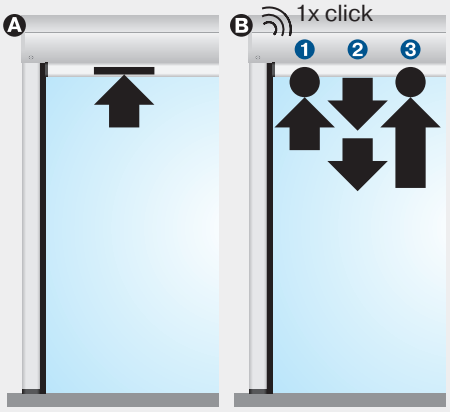
2. Setting the retract limit position using the operator control

Ⓐ **To retract limit position stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Open the shading solution to the retract limit position ❶. Then move the shading solution in the extend direction briefly twice, waiting for 1 second between movements, ❷ then in the retract direction until the drive stops automatically and clicks once after 3 seconds ❸.

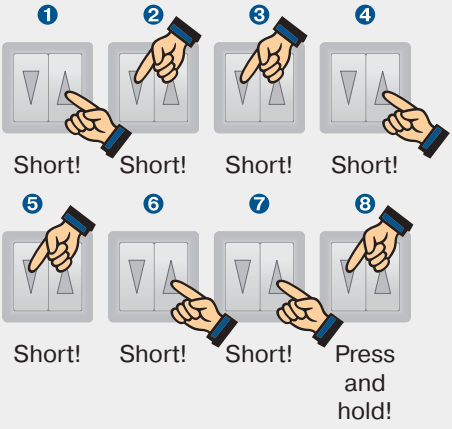


3. Deleting the limit positions using the operator control

Run the drive for 6 seconds in the retract or extend direction.

Then run through steps ❶ to ❽ of the deleting sequence shown beside at one second intervals until the drive clicks twice.

When using operator controls with maintained operation mode, a STOP command must be issued after every short drive command.



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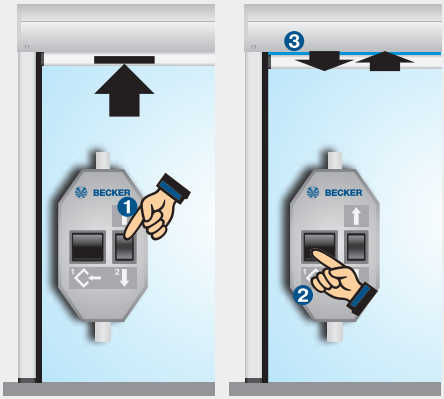
Setting the special function fabric untensioning

Activating/deactivating the fabric untensioning function

Run the shading solution towards the upper stop ❶.

Press the programming button ❷ until the drive confirms the activation or deactivation of the fabric untensioning with a short extension and retraction ❸.

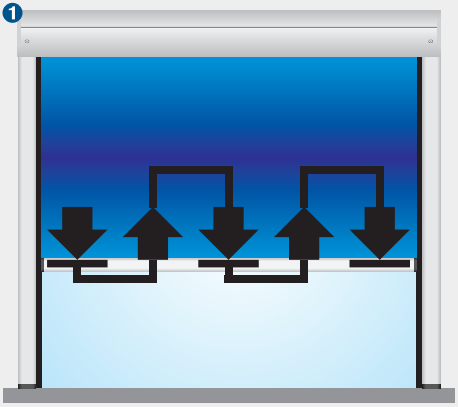


Sensitive obstacle detection

If an obstacle is detected during the drive (e.g. wind load during the closing movement), the drive stops, reverses and tries to move past the obstacle a second time. If this fails, the drive switches off after the third attempt ❶.

If obstacles occur at different points, the drive restarts three times in each case. After a maximum of ten stops caused by obstacles at different points, the drive reverses and switches off.

Approx. 15 cm from the lower limit position, the drive interrupts operation immediately following the first detection of an obstacle and makes no further attempt to continue.



E16 (SE I1) drives

Type plate

❶ Type designation: e.g. R 8/17 SE I1

R	Size of drive (tube diameter) R - 45mm L - 58mm
8-17	Rated torque/output speed
E	Electronic limit switch
16	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 184751878

18	Year 2018
47	Calendar week
51878	Consecutive number

Wiring

Two or more drives with electronic limit switching can be connected in parallel to a control point. The maximum number of synchronously controlled drives depends on the load capacity of the operator control.

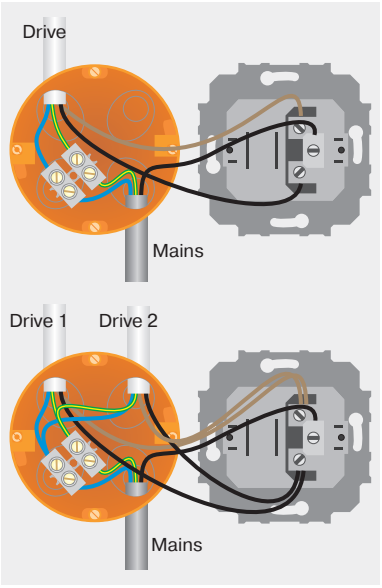
The changeover time for switching the running direction must be at least 0.5 seconds.

The switch and controls must not execute simultaneous retract and extend commands.

The following applies to operator controls with a 5A contact load rating:

R8 - R60 =
max. 3 drives

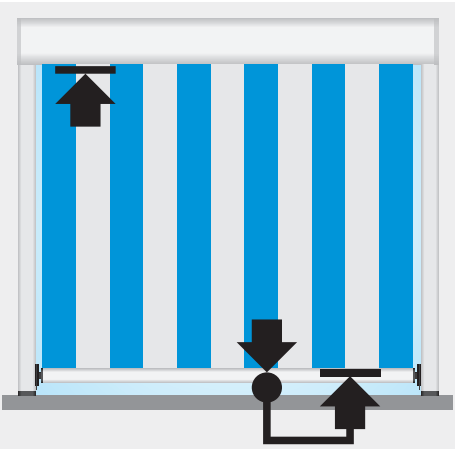
L70 - L120 =
max. 2 drives



Information

SE I1 drives with electronic limit switching detect and program the Retract limit position automatically. A fixed stop must be available in the retract limit position.

The shading solution is automatically locked and tightened in the extend position.

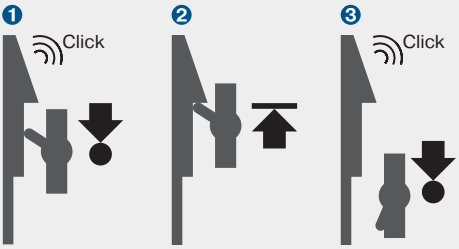


Locking principle

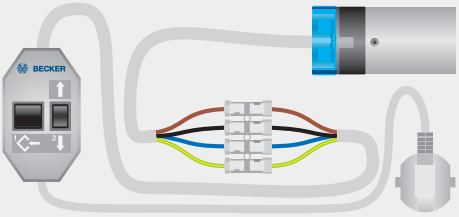
The shading solution is extended until the bolt has passed the locking point (bolt clicks). The first point is programmed here ❶.

Then run the shading solution in the UP direction until the drive pulls the fabric tight and switches off automatically ❷.

The shading solution is then moved out of the path of the locking mechanism. A point is also programmed here ❸.



Connect the wires in the connecting cable of the drive to the wires of the same colour in the programming unit.

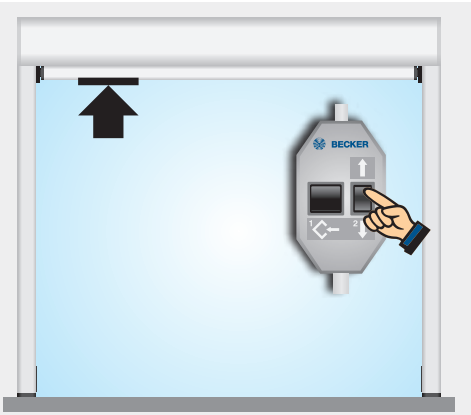


Setting the limit positions

1. Programming the retract limit position

Connect the wires of the tubular drive to those of the same colour in the programming unit.

Run the shading solution towards the upper stop until the drive stops automatically.

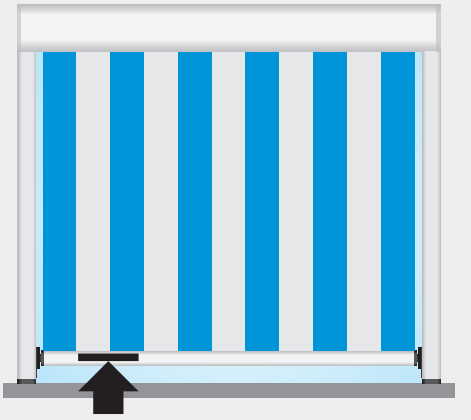


2. Programming the locking limit position

Run the shading solution down ❶ until the locking mechanism clicks ❷. Then press the programming button on the programming unit ❸ until the drive clicks once ❹.

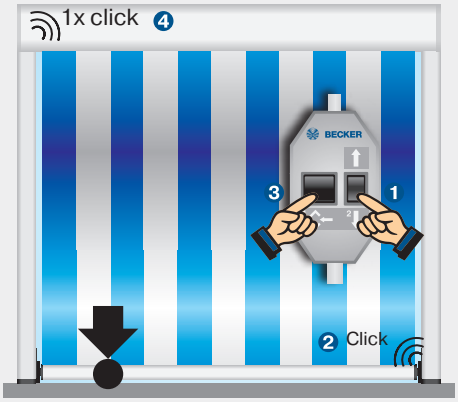
3. Moving the shading solution into the locking mechanism

Run the shading solution up into the locking mechanism until the drive switches off automatically.



4. Programming the unlocking limit position

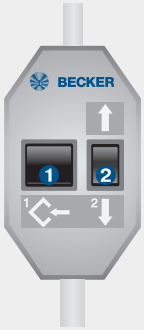
Run the shading solution down out of the locking position ❶ until the locking mechanism clicks ❷. Then press the programming button on the programming unit ❸ until the drive clicks once ❹.



5. Deleting the limit positions using the programming unit

- Press and hold the programming button ❶
- Press and hold the ⬇ button ❷
- Release the programming button ❶
- Press the programming button ❶ again until the drive clicks twice.

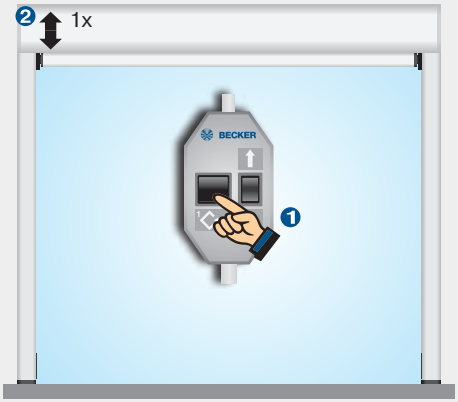
If the drive is situated between the limit positions, both limit positions are deleted. If the drive is situated in one of the limit positions, only this position will be deleted.



6. Activating the fabric untensioning special function (with E16 only)

Press the programming button ❶, until the drive confirms the activation of the fabric untensioning function by one downward and upward movement ❷.

Repeat the procedure to deactivate the fabric untensioning function.



Type plate

❶ Type designation: e.g. R30/17C PSF+

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
30/17	Rated torque/output speed
C	Pluggable connecting cable
P	Point to point programmable
S	Electronic limit switching for sun protection
F	Radio receiver
+	Higher closing force for cassette awnings

❷ Operating mode (short-period operation S2)

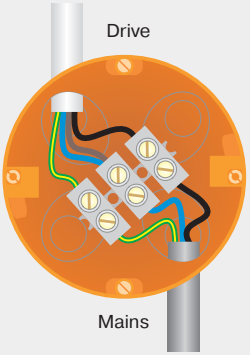
After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 08 49 20095

08	Year 2008
49	Calendar week
20095	Consecutive number

Wiring

Drives with electronic limit switching and integrated radio receiver are connected directly to the power supply. The brown wire and the blue wire together are connected to the neutral wire.



Information

PSF(+) drives with electronic limit switching detect and program the Retract limit position automatically if a permanent stop exists.

If no stop exists, a limit switch-off point is programmed.

PSF drives

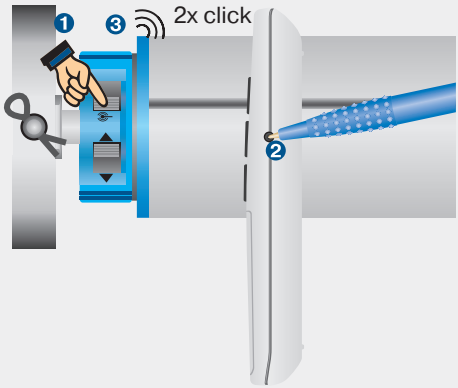
PSF drives are used to operate screens, awnings and conservatory shading.

PSF+ drives

PSF+ drives are used to operate cassette awnings that require a higher closing torque. The cassette is always closed completely.

Programming the master transmitter

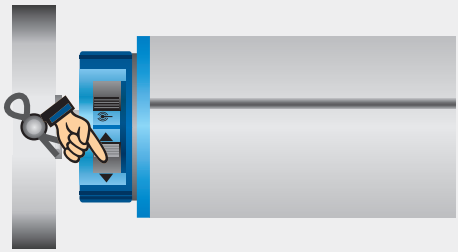
Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).



Correcting the direction of rotation

If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Attention: The direction of rotation can only be changed as long as no limit positions have been programmed.



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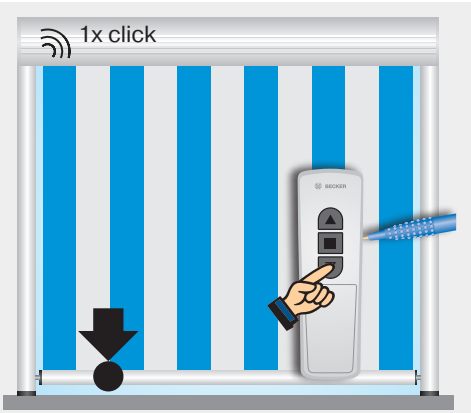
Setting the limit positions

1. Programming the extend limit position with the master transmitter

Run the shading solution to the extend limit position. Then press the programming button and the EXTEND button until the drive clicks once.



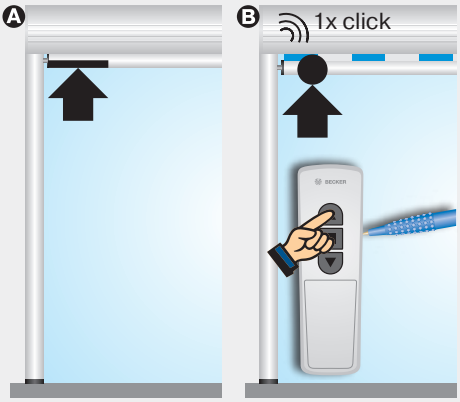
2. Programming the retract limit position with the master transmitter

Ⓐ **Retract limit position stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired retract position. Then press the programming button and the RETRACT button until the drive clicks once.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

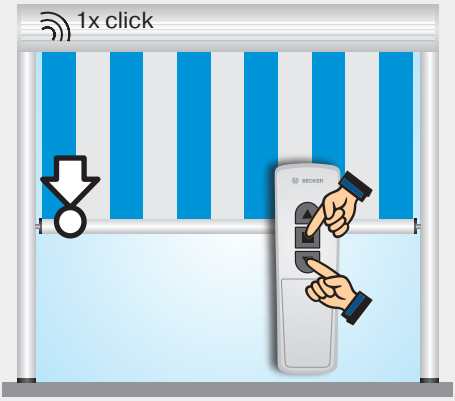
If the shading solution is situated between the limit positions, both limit positions are deleted in the procedure. If the shading solution is situated in one of the limit positions, only this position will be deleted.

Setting the intermediate positions

1. Programming the intermediate position I

Run the shading solution to the desired intermediate position and press the STOP and EXTEND buttons until the drive clicks once.

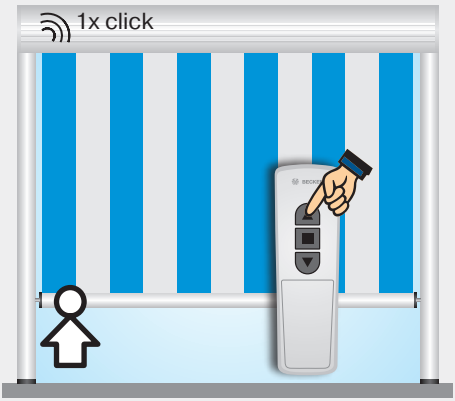
To travel to intermediate position I, press the EXTEND button twice within one second.



2. Programming the intermediate position II

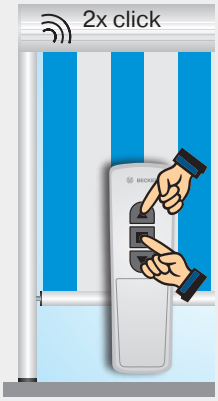
Run the shading solution to the desired intermediate position and press the STOP and RETRACT buttons until the drive clicks once.

To travel to intermediate position II, press the RETRACT button twice within one second.



3. Deleting the intermediate position I/intermediate position II

Run the drive to the position you wish to delete and repeat the programming procedure (press the STOP and EXTEND buttons or STOP and RETRACT buttons) until the drive clicks twice.



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Type plate

❶ **Type designation: e.g. R8/17C SEF I1**

R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
8-17	Rated torque/output speed
C	Integrated Centronic radio receiver
16	Consecutive number

❷ **Operating mode (short-period operation S2)**

After 4 minutes of continuous operation, the drive must be allowed to cool off.

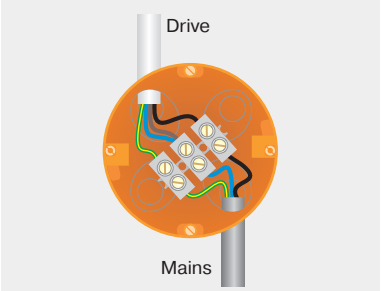
❸ **Serial number: e.g. 184772133**

18	Year 2018
47	Calendar week
72133	Consecutive number

Wiring

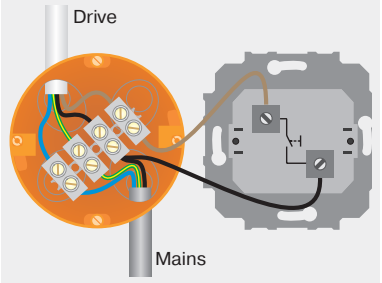
Connection without on-site operation

The blue and green/yellow wires of the drive are connected to the same coloured wires of the power line. The black wire of the drive is connected to the phase (L) and the brown wire is also connected to the blue wire (N) of the power line.



Connection with on-site operation with a single button (nur bei C16)

With on-site operation, the brown wire of the drive is connected to the phase of the power line via a single button. The push-button must not be operated during the first five seconds after the mains voltage has been switched on. The drive can then be operated via the single button using the command sequence Up, Stop, Down, Stop, etc.



Information

S16 (SEF I1) SEF I1 drives with electronic limit switching detect and program the retract limit position automatically. A fixed stop must be available in the retract limit position.

The shading solution is automatically locked and tightened in the extend position.

Locking principle

The shading solution is extended until the bolt has passed the locking point (bolt clicks). The first point is programmed here ❶.

Then run the shading solution in the UP direction until the drive pulls the fabric tight and switches off automatically ❷.

The shading solution is then moved out of the path of the locking mechanism. A point is also programmed here ❸.

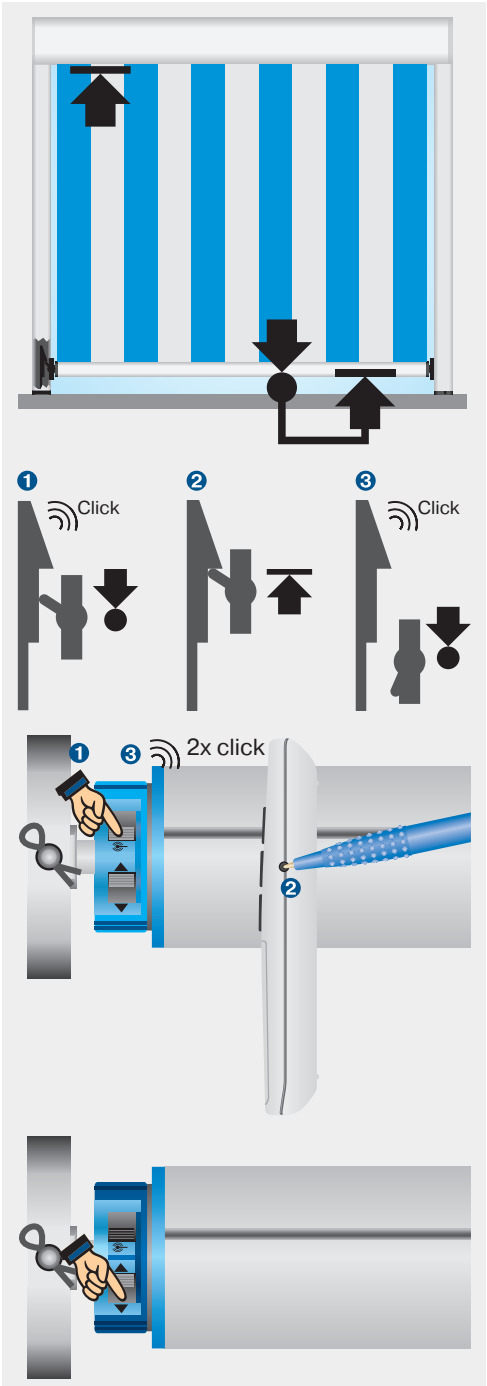
Programming the master transmitter

Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).

Correcting the direction of rotation

The direction of rotation can be corrected using the switch on the drive head or the master transmitter (with C16 only).

Attention: The direction of rotation can only be changed as long as no limit positions have been programmed.

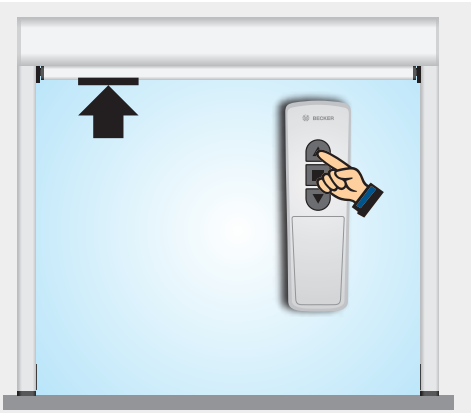


Setting the limit positions

1. Programming the retract limit position using the master transmitter

Connect the wires of the tubular drive to those of the same colour in the programming unit.

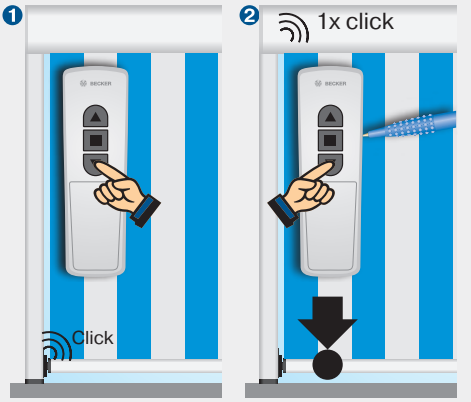
Run the shading solution towards the upper stop until the drive stops automatically.



2. Programming the locking limit position using the master transmitter

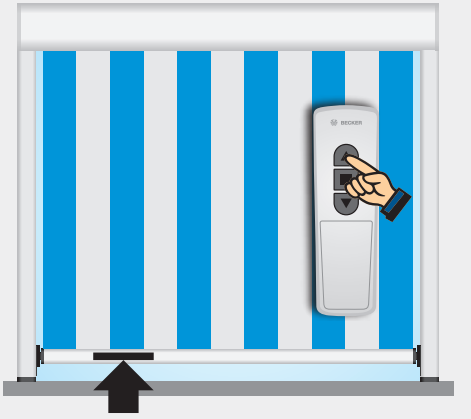
Run the shading solution down until the locking mechanism clicks ❶.

Then press the programming button and the EXTEND button until the drive clicks once ❷.



3. Moving the shading solution into the locking mechanism using the master transmitter

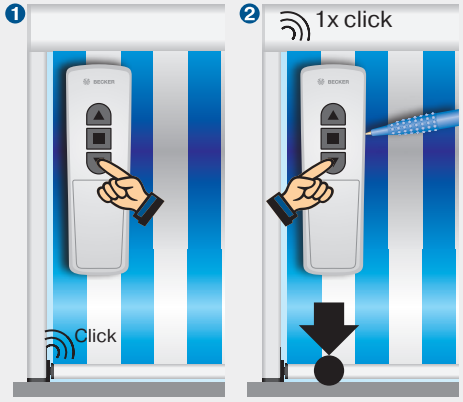
Run the shading solution up into the locking mechanism until the drive switches off automatically.



4. Programming the unlocking limit position using the master transmitter

Run the shading solution down until the locking mechanism clicks ❶.

Then press the programming button and the EXTEND button until the drive clicks once ❷.



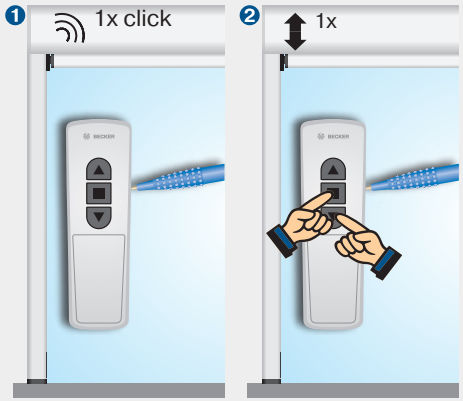
5. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

6. Activating the fabric untensioning special function (with C16 only)

Open the shading solution to the upper limit position. Then press the programming button until the drive clicks once ❶. Then press the programming button, the STOP button and the DOWN button until the drive confirms the activation of the fabric untensioning function by one downward and upward movement ❷.

Repeat the procedure to deactivate the fabric untensioning function.



Type plate

❶ Type designation: e.g. R30-17-C12

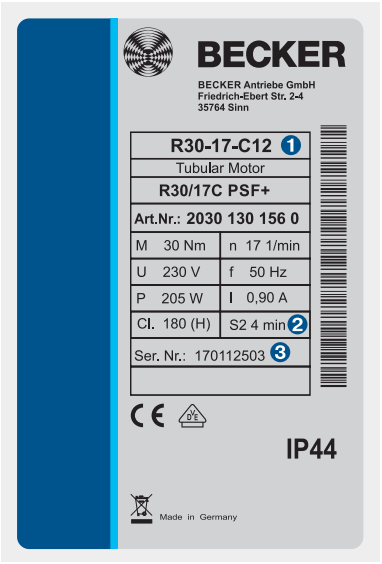
R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
30-17	Rated torque/output speed
C	Centronic remote control
12	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 170112503

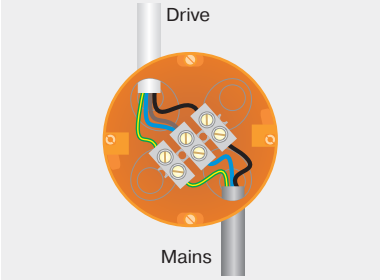
17	Year 2017
01	Calendar week
12503	Consecutive number



Wiring

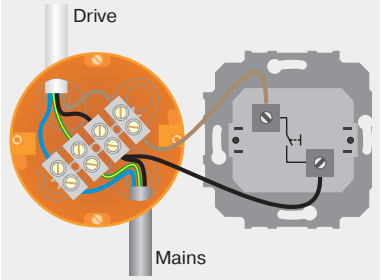
Connection without on-site operation

The blue and green/yellow wires of the drive are connected to the same coloured wires of the power line. The black wire of the drive is connected to the phase (L) and the brown wire is also connected to the blue wire (N) of the power line.



Connection with on-site operation with a single button

With on-site operation, the brown wire of the drive is connected to the phase of the power line via a single button. The push-button must not be operated during the first five seconds after the mains voltage has been switched on. The drive can then be operated via the single button using the command sequence Up, Stop, Down, Stop, etc.



Information

Autoinstall

The C12 can automatically detect and program the optimum maximum extend limit position for articulated-arm and cassette awnings via the Autoinstall function.

Stop behaviour

The C12 can be switched between increased and reduced stop behaviour.

Fabric untensioning

When the fabric untensioning is active, the drive moves slightly in the Extend direction once it reaches the Retract limit position in order to relieve the strain on the fabric.

Fabric stretching function

A programmable fabric stretching function ensures the fabric is pulled taut after extending to the lower limit position.

Programming the master transmitter

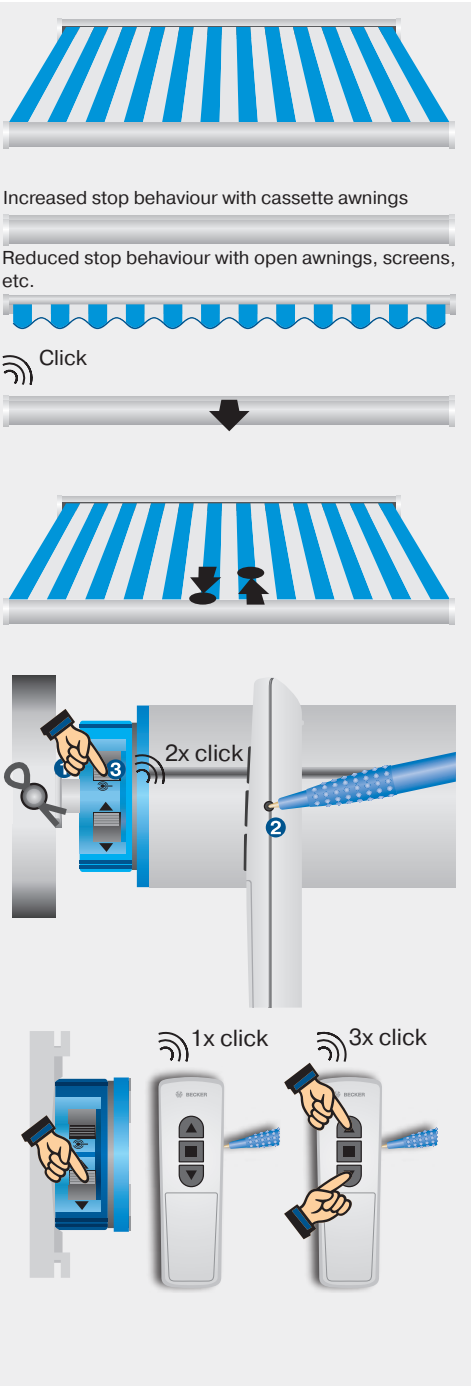
Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).

Correcting the direction of rotation

No limit positions may be programmed.

Via the switch on the drive: If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

Via the master transmitter: Press the programming button until the drive clicks once. Then press the programming button, RETRACT button and EXTEND button until the drive clicks three times.



Setting the stop behaviour

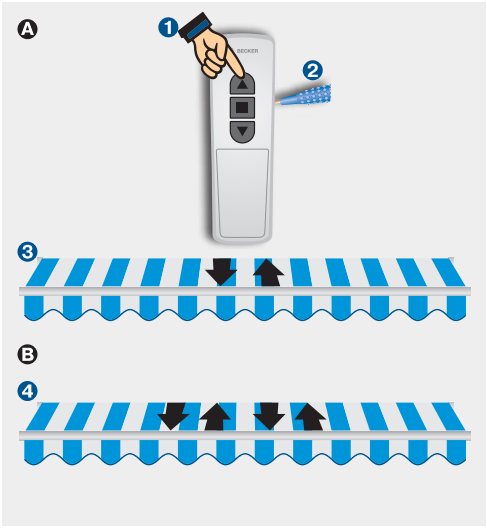
On delivery, the 35 diameter drive types have a reduced stop behaviour, and the 45 diameter and 58 diameter drive types have an increased stop behaviour. The stop behaviour can only be changed during the first 3 runs towards the upper stop.

Ⓐ Switching on reduced stop behaviour

Move the shading solution in the retract direction ❶ and also press the programming button before it reaches the limit position ❷. Keep holding both buttons pressed until the shading solution confirms the changeover by extending and retracting once ❸.

Ⓑ Switching on increased stop behaviour

Repeat the procedure under Ⓐ until the drive confirms the changeover by extending and retracting twice ❹.



Setting the limit positions via Autoinstall

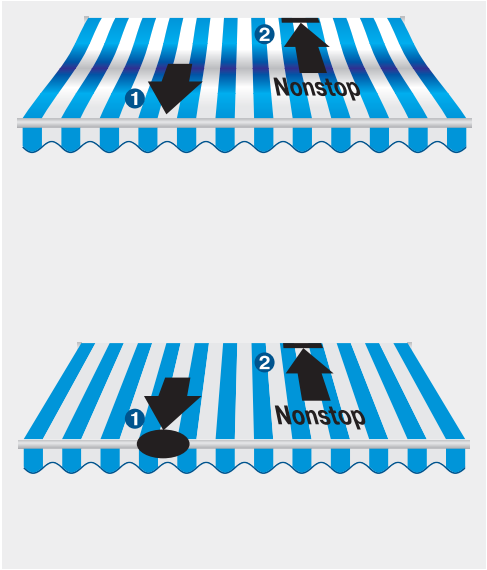
Ⓐ Autoinstall with articulated arm and cassette awnings

Run the shading solution in the extend direction until it passes the extend limit position and the fabric is resting on the articulated arms ❶.

Then run the shading solution without stopping in the retract direction until it stops automatically at the upper stop ❷.

Ⓑ Autoinstall (freely selectable point at the bottom up to upper stop)

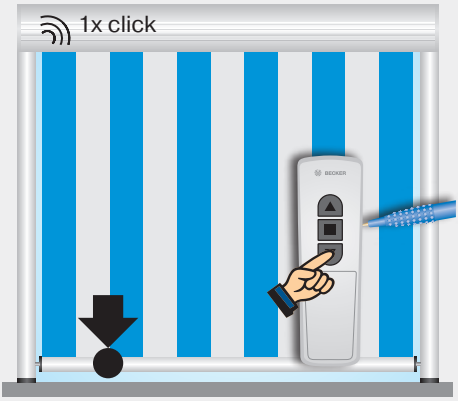
Run the shading solution to the desired extend limit position ❶. Then run the shading solution without stopping in the retract direction until it stops automatically at the upper stop ❷.



Setting the limit positions

1. Programming the extend limit position with the master transmitter

Run the shading solution to the extend limit position. Then press the programming button and the EXTEND button until the drive clicks once.



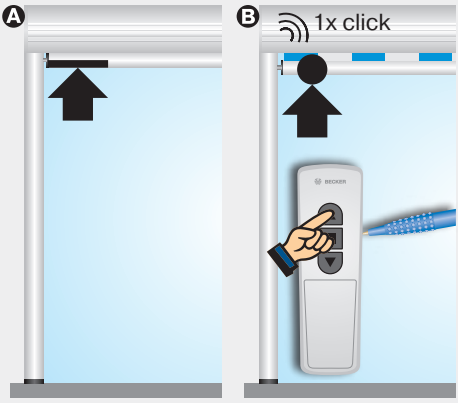
2. Programming the retract limit position with the master transmitter

Ⓐ **Retract limit position stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To retract limit position point**

Run the shading solution to the desired retract position. Then press the programming button and the RETRACT button until the drive clicks once.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

If the shading solution is situated between the limit positions, both limit positions are deleted in the procedure. If the shading solution is situated in one of the limit positions, only this position will be deleted. In terms of special functions, the drive reverts to the as-delivered condition.

BECKER

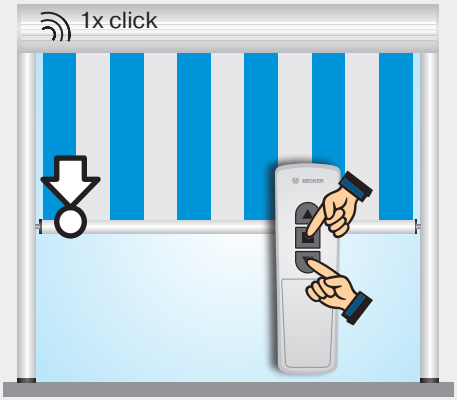
Setting the intermediate positions

1. Programming the intermediate position I

Run the shading solution to the desired intermediate position and press the STOP and EXTEND buttons until the drive clicks once.

Repeat the procedure to overwrite the intermediate position.

To travel to intermediate position I, press the EXTEND button twice within one second.

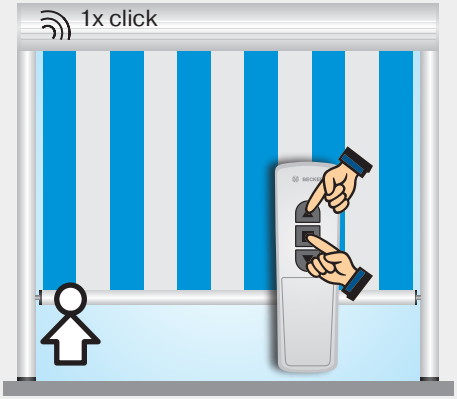


2. Programming the intermediate position II

Run the shading solution to the desired intermediate position and press the STOP and RETRACT buttons until the drive clicks once.

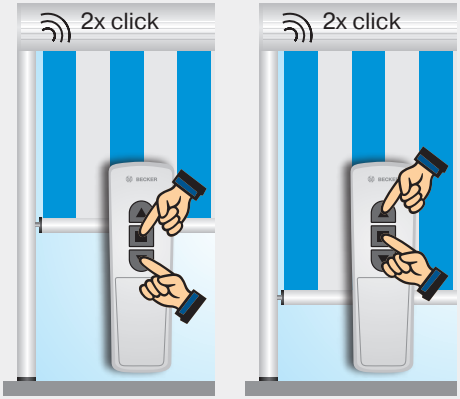
Repeat the procedure to overwrite the intermediate position.

To travel to intermediate position II, press the RETRACT button twice within one second.



3. Deleting the intermediate position I/intermediate position II

Run the drive to the position you wish to delete and repeat the programming procedure (press the STOP and EXTEND buttons or STOP and RETRACT buttons) until the drive clicks twice.

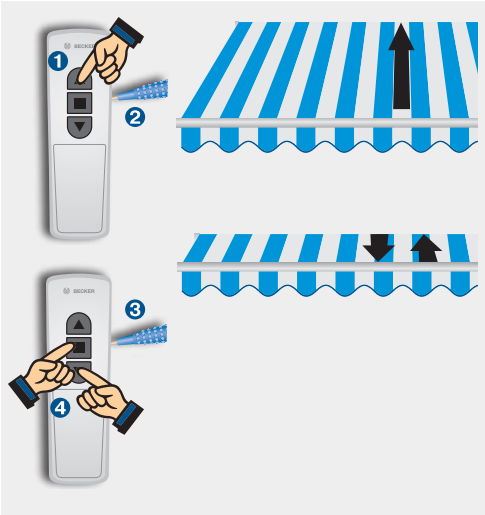


Setting the special function fabric untensioning

1. Activating/deactivating the fabric untensioning function

On delivery, the fabric untensioning function is deactivated on drive types with a diameter of 35 mm, and is activated on drive types with diameters of 45 mm and 58 mm.

Run the shading solution towards the upper stop ❶. Then press the programming button ❷ until the drive clicks once. Press the programming button again ❸ and also the stop and EXTEND button ❹ until the drive confirms activation or deactivation of the fabric untensioning.

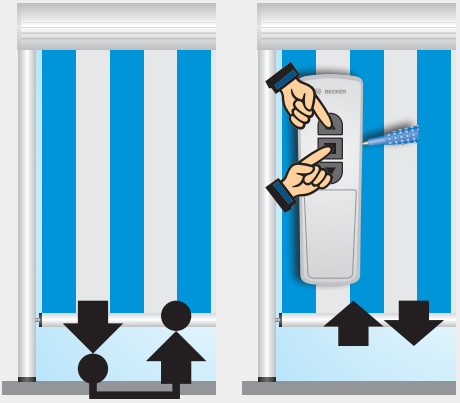


Setting the special function fabric stretching

1. Activate/deactivate the fabric stretching function

Move the shading solution to the fabric stretching position. Danach drücken Then press the programming button, STOP button and RETRACT button until the drive signals to confirm the programming operation.

To deactivate the fabric tensioning function, press the EXTEND button to move the drive to the fabric tensioning position then press the programming button, STOP button and RETRACT button again until the drive signals to confirm the programming operation.



Type plate

❶ Type designation: e.g. R30-17-C18

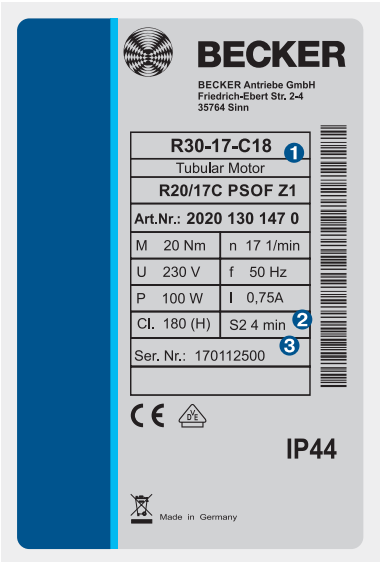
R	Size of drive (tube diameter) P - 35mm R - 45mm L - 58mm
30-17	Rated torque/output speed
C	Centronic remote control
18	Consecutive number

❷ Operating mode (short-period operation S2)

After 4 minutes of continuous operation, the drive must be allowed to cool off.

❸ Serial number: e.g. 170112500

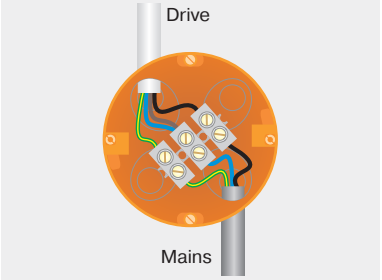
17	Year 2017
01	Calendar week
12500	Consecutive number



Wiring

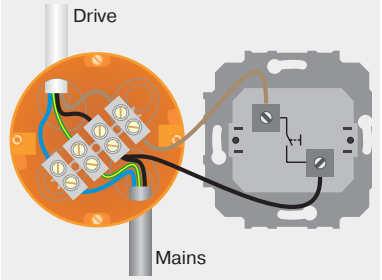
Connection without on-site operation

The blue and green/yellow wires of the drive are connected to the same coloured wires of the power line. The black wire of the drive is connected to the phase (L) and the brown wire is also connected to the blue wire (N) of the power line.



Connection with on-site operation with a single button

With on-site operation, the brown wire of the drive is connected to the phase of the power line via a single button. The push-button must not be operated during the first five seconds after the mains voltage has been switched on. The drive can then be operated via the single button using the command sequence Up, Stop, Down, Stop, etc.

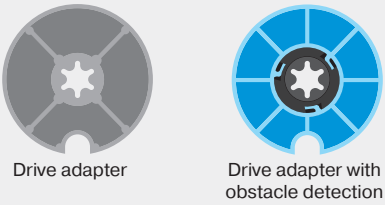


Information

Obstacle detection

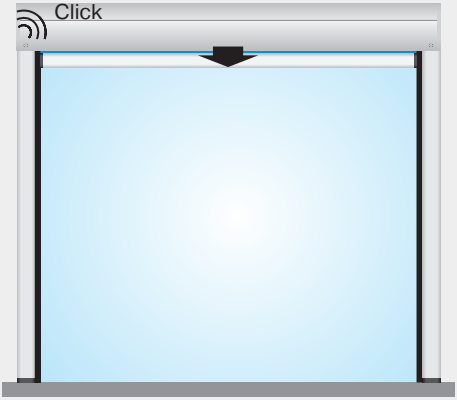
In order to avoid uncontrolled unwinding of the shading solution, obstructions in the DOWN direction are detected (such as wind load).

For the sensitive obstacle detection to become active, the drive adapter with obstacle detection must be fitted on the drive and the shading solution must have a heavy end strip.



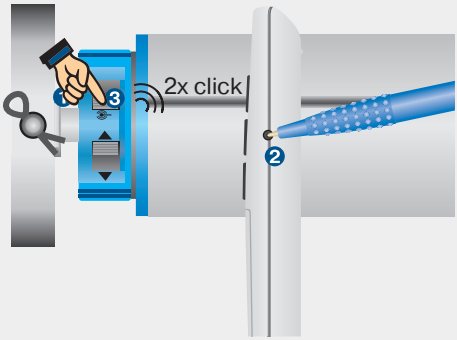
Fabric untensioning

When the fabric untensioning is active, the drive moves slightly downwards once it reaches the retract limit position in order to relieve the strain on the fabric.



Programming the master transmitter

Set the drive to programming mode for 3 minutes by switching the power on or by setting the radio switch to the position ❶. Then press the programming button on the master transmitter ❷ until the drive clicks twice ❸ (3 seconds when installing new drives, 10 seconds to overwrite a previously programmed master transmitter).

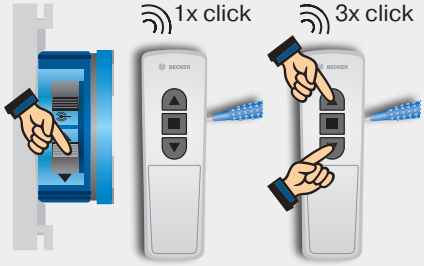


Correcting the direction of rotation

No limit positions may be programmed.

Via the switch on the drive: If the drive is rotating in the wrong direction, reverse the direction switch on the drive.

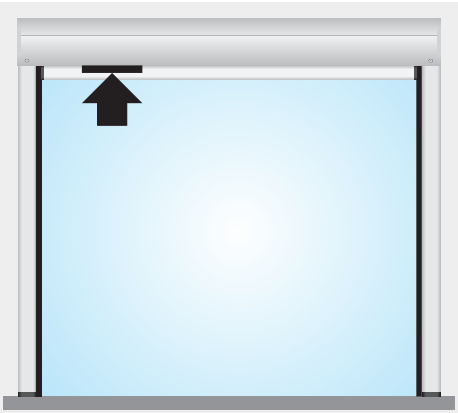
Via the master transmitter: Press the programming button until the drive clicks once. Then press the programming button, RETRACT button and EXTEND button until the drive clicks three times.



Setting the limit positions via Autoinstall

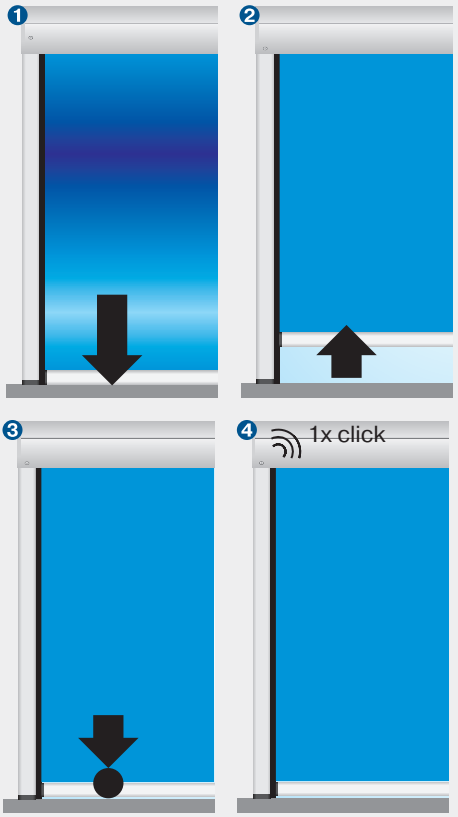
1. Programming the retract limit position

Run the shading solution towards the stop until the drive stops automatically.



2. Programming the extend limit position

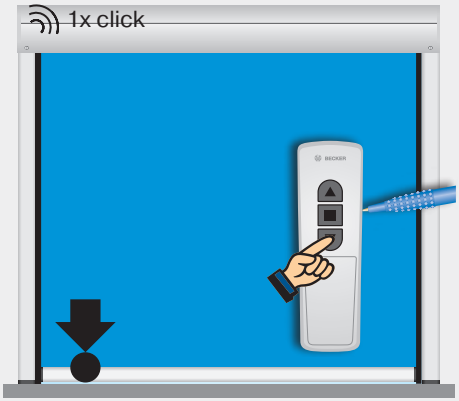
Travel in the extend direction and keep the travel button pressed, until the drive moves past the extend limit position ❶, then moves upwards ❷ and then downwards ❸ in order to finally stop in the extend limit position and to confirm the programming procedure with a click ❹.



Setting the limit positions

1. Programming the extend limit position with the master transmitter

Run the shading solution to the extend limit position. Then press the programming button and the EXTEND button until the drive clicks once.



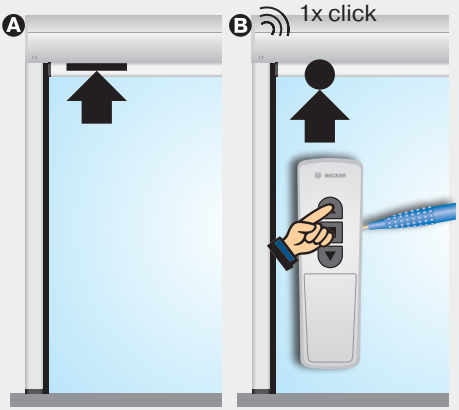
2. Programming the retract limit position with the master transmitter

Ⓐ **Retract limit position stop**

Run the shading solution towards the upper stop until the drive stops automatically.

Ⓑ **To retract limit position point**

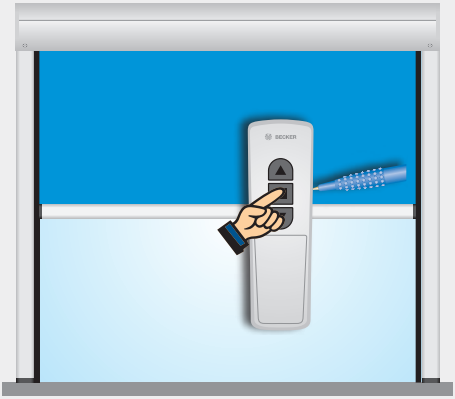
Run the shading solution to the desired retract position. Then press the programming button and the RETRACT button until the drive clicks once.



3. Deleting the limit positions using the master transmitter

Press the programming button and the STOP button until the drive clicks twice after 10 seconds.

If the shading solution is situated between the limit positions, both limit positions are deleted in the procedure. If the shading solution is situated in one of the limit positions, only this position will be deleted.



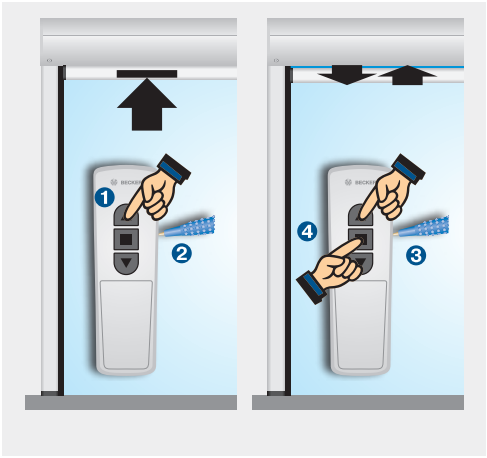
BECKER

Setting the special function fabric untensioning

1. Activating/deactivating the fabric untensioning function

On delivery, the fabric untensioning function is deactivated on drive types with a diameter of 35 mm, and is activated on drive types with a diameter of 45 mm.

Run the shading solution towards the upper stop ❶. Then press the programming button ❷ until the drive clicks once. Press the programming button again ❸ and also the stop and RETRACT button ❹ until the drive confirms activation or deactivation of the fabric untensioning.

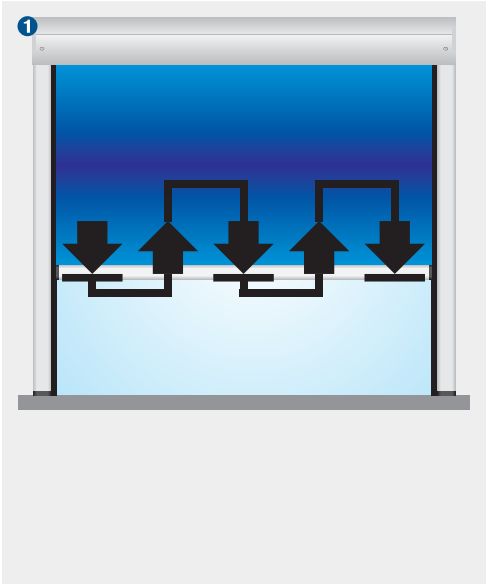


Sensitive obstacle detection

If an obstacle is detected during the drive (e.g. wind load during the closing movement), the drive stops, reverses and tries to move past the obstacle a second time. If this fails, the drive switches off after the third attempt ❶.

If obstructions occur at different points, the drive restarts three times in each case. After a maximum of ten stops caused by obstructions at different points, the drive reverses and switches off.

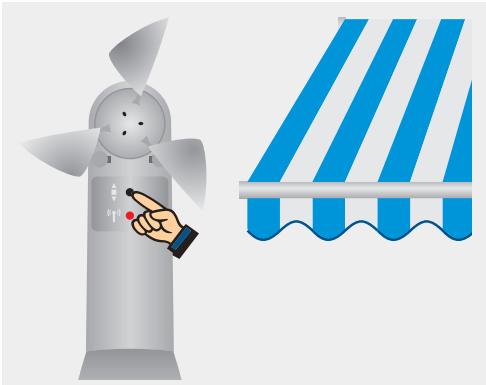
Approx. 15 cm from the lower limit position, the drive interrupts operation immediately following the first detection of an obstacle and makes no further attempt to continue.



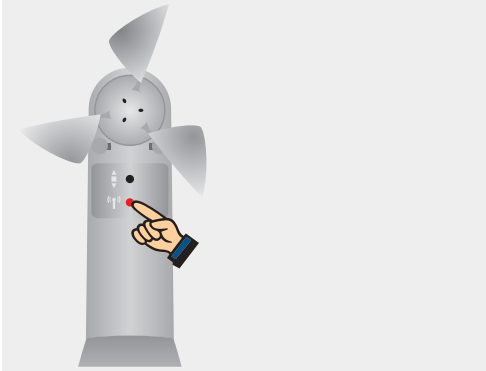
Commissioning the SWS241 radio-controlled Sun-Wind-Set hand-held transmitter with sensor

1. Programming the master transmitter

a. Run the shading solution to a centre position using the UP/STOP/DOWN toggle switch.

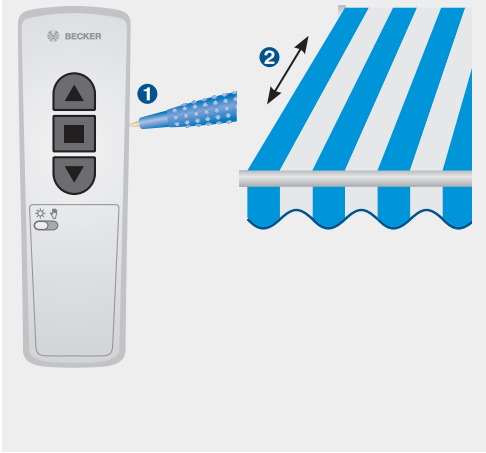


b. Press the programming button on the SWC510. The SWC510 goes into the programming mode for 3 minutes.



c. When in the programming mode, press the programming button ❶ on the SWC441 hand-held radio transmitter until a confirmation ❷ (the shading solution shifts) is received.

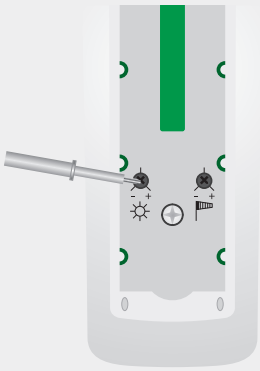
Note: In order to recognise the shift clearly, the shading solution should be situated between the limit positions.



2. Setting the sun threshold

Remove the labelling field on the back of the SWC441-II hand-held radio transmitter. Use the tool provided to turn the sun threshold regulator to the desired setting.

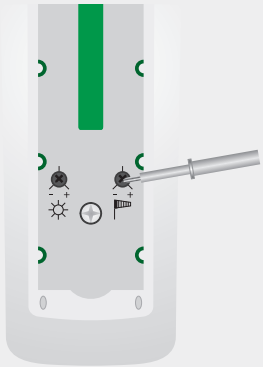
The sun threshold has 15 possible settings (approx. 2 klux to 100 klux). When slowly turning the regulator, the shading solution shifts to indicate the setting changes.



3. Setting the wind threshold

Use the tool provided to turn the wind threshold regulator to the desired setting.

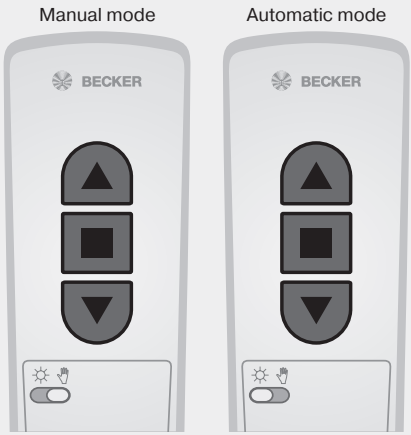
The wind threshold has 11 possible settings (approx. 2m/s to 22 m/s). When slowly turning the regulator, the shading solution shifts to indicate the setting changes.



4. Checking settings

After the threshold values are set, the system switches to the TEST mode automatically. In TEST mode, the shade function and wind monitoring times are shortened. The functions can be checked in automatic mode.

End the test mode by using the slide switch to move from automatic mode to manual mode and back to automatic mode. If the slide switch is not operated within 15 minutes, the test mode is ended automatically.

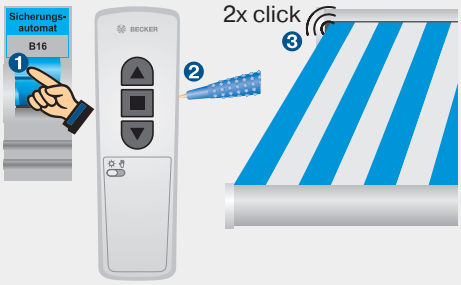


Commissioning the SWS441/SWS641 radio-controlled Sun-Wind-Set hand-held transmitter with sensor

1. Programming the master transmitter

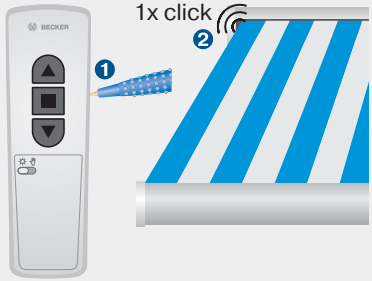
Switch off the power supply on the radio receiver (drive type PSF(+)) and then switch it back on ❶. Then press the programming button on the master transmitter ❷ until the drive clicks twice ❸.

Note: Follow the instructions on pages 92 and 93 to set the limit positions for the PSF(+) drive.

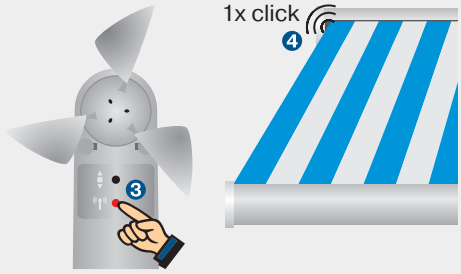


2. Programming the SC811/SC861

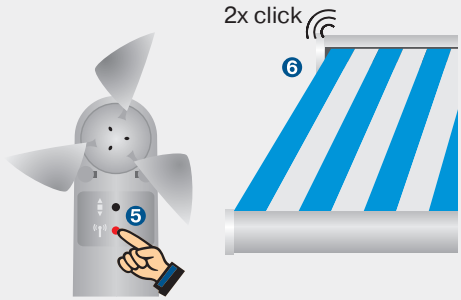
a) Press the programming button of the master transmitter ❶ until the tubular drive clicks once ❷.



b) Then press the programming button des SC811/SC861 ❸ until the tubular drive clicks once ❹.



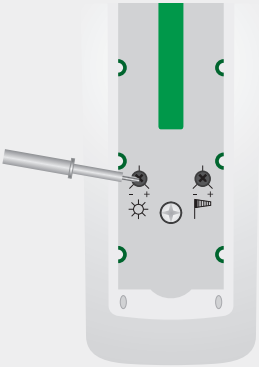
c) Press the programming button of the SC811/SC861 again ❺ until the tubular drive clicks twice ❻.



3. Setting the sun threshold

Remove the labelling field on the back of the SWC441-II hand-held radio transmitter. Use the tool provided to turn the sun threshold regulator to the desired setting.

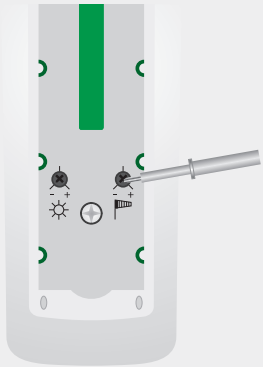
The sun threshold has 15 possible settings (approx. 2 klux to 100 klux). When slowly turning the regulator, the tubular drive clicks to indicate the setting changes.



4. Setting the wind threshold

Use the tool provided to turn the wind threshold regulator to the desired setting.

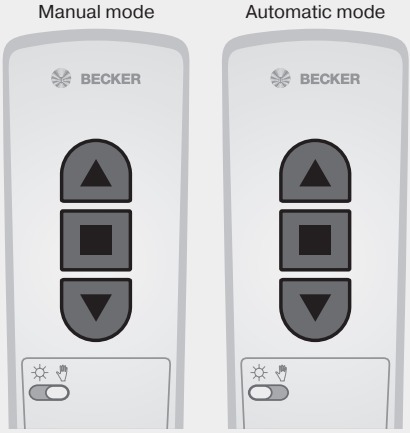
The wind threshold has 11 possible settings (approx. 2m/s to 22 m/s). When slowly turning the regulator, the tubular drive clicks to indicate the setting changes.



5. Checking settings

After the threshold values are set, the system switches to the TEST mode automatically. In TEST mode, the shade function and wind monitoring times are shortened. The functions can be checked in automatic mode.

End the test mode by using the slide switch on the SWC441-II to move from automatic mode to manual mode and back to automatic mode. If the slide switch is not operated within 15 minutes, the test mode is ended automatically.

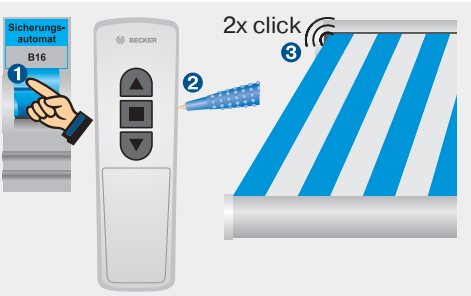


Commissioning of the SC211 awning radio-controlled movement sensor

1. Programming the master transmitter

Switch off the power supply on the radio receiver (drive type PSF(+)) and then switch it back on ❶. Then press the programming button on the master transmitter SWC241-II ❷ until the drive clicks twice ❸.

Note: Follow the instructions on pages 92 and 93 to set the limit positions for the PSF(+) drive.

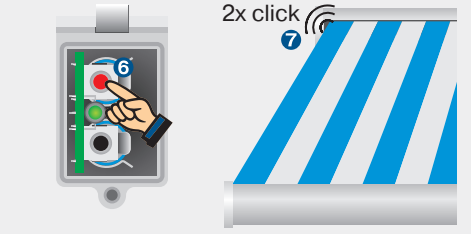


2. Programming the SC211

a.) Remove the labelling field on the back of the SWC241-II radio handheld transmitter. Use the tool provided to turn the SWC241-II wind threshold regulator clockwise to the maximum setting ❶. Then press the programming button ❷ until the drive clicks once ❸.

b) Then press the red programming button ❹ of the SC211 until the tubular drive clicks once ❺.

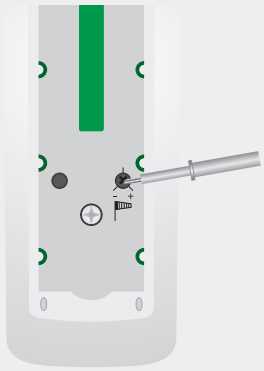
c) Press the red programming button again ❻ until the tubular drive clicks twice ❼.



3. Setting the wind threshold

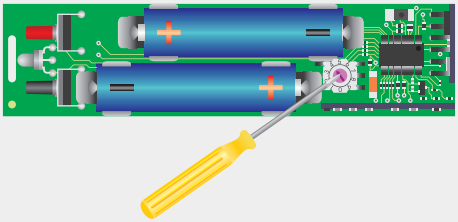
Use the tool provided to turn the wind threshold regulator on the SWC241-II to the desired setting.

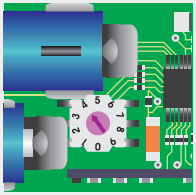
The wind threshold has 11 possible settings (approx. 2 m/s to 22 m/s). When slowly turning the regulator, the tubular drive clicks to indicate the setting changes.



4. Setting the release angle

Use the tool provided to set the release angle on the rotary switch of the PCB.





0 = Off
1 = Sensitive
9 = Insensitive

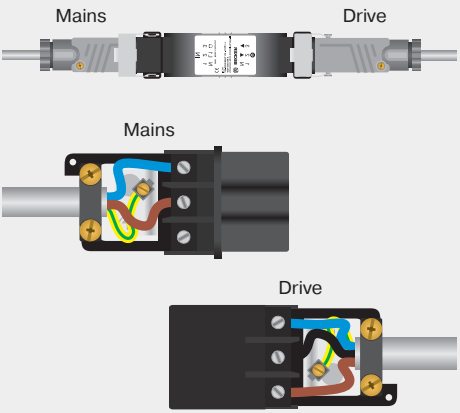
5. Programming the release angle

Run the awning to the extend limit position. After waiting for 15 seconds, press the programming knob until, after 6 seconds, the LED changes from green to orange and back to green.

Commissioning

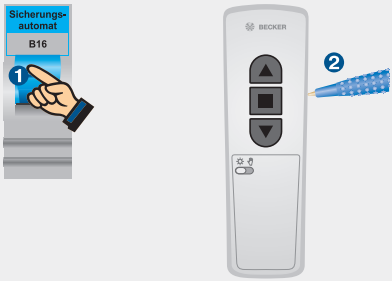
Wiring

The external radio receiver VC470-II can be used to convert conventional drives for venetian blinds, awnings and roller shutters to radio drives. The Hirschmann STAS 3 connector is used as the connection at the drive and the Hirschmann STAK 3 coupling is used as the connection to the mains supply.



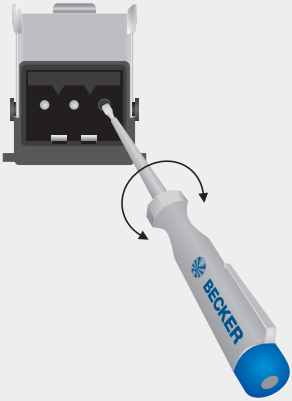
1. Programming the master transmitter

Switch off the power supply on the VC470-II radio receiver and then switch it back on ❶. Then press the programming button on the master transmitter ❷, until the control unit shifts briefly to confirm the programming operation (3 seconds for initial installation, 10 seconds to overwrite a previously programmed master transmitter).



2. Correcting the direction of rotation

Carefully turn the reversing switch on the mains connection side of the VC470-II to the opposite position to reverse the direction of rotation.

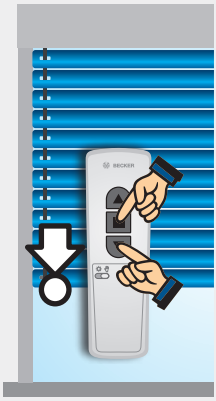


Functions of the VC470-II

3. Programming the intermediate position/tilt position

Run the venetian blind out of the upper limit position to the required intermediate position then press the STOP and DOWN button until the drive shifts to acknowledge the programming operation.

Run to the required tilt position then press the STOP and UP button until the drive shifts to acknowledge the programming operation.



Intermediate position

Tilt position

4. Deleting the intermediate position/tilt position

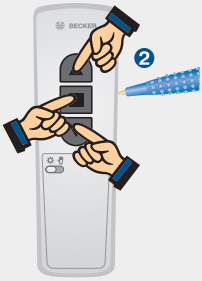
Press the STOP button briefly ❶, then press the STOP button and keep it pressed for 6 seconds ❷ until the drive shifts to acknowledge the deletion.

You can also delete the intermediate and tilt position by changing over the venetian blind/roller shutter/awning mode.

You can delete the positions individually by approaching the intermediate or tilt position (by tapping UP or DOWN twice) then repeating the programming.

5. Changeover: venetian blind/roller blind/awning mode

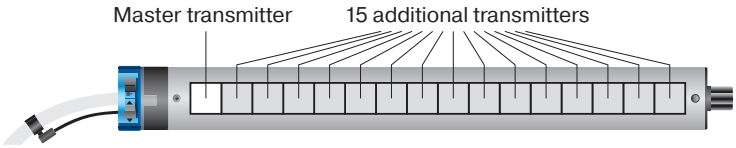
Press the programming button on the master transmitter for 3 seconds until the drive shifts ❶. Then press the programming, UP, STOP and DOWN buttons for 10 seconds until the drive shifts to acknowledge the changeover ❷.



BECKER

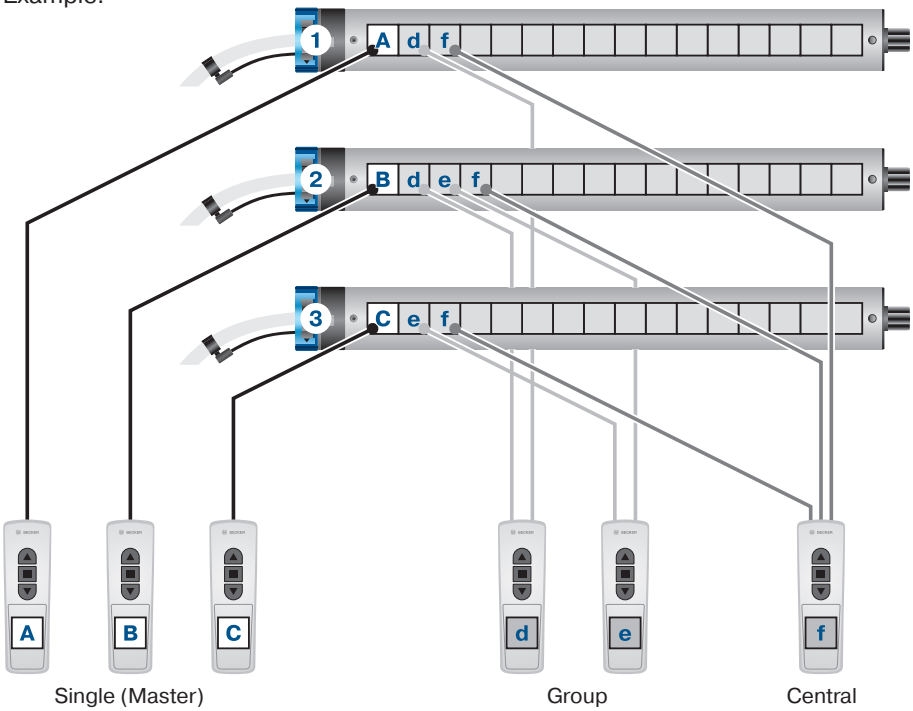
Operating principle: Single, group and central control unit configuration

Each radio receiver has one storage space for a master transmitter and 15 storage spaces for additional transmitters.



The master transmitter is programmed in the receiver via the radio programming button/radio switch or by switching on the power. All other transmitters are programmed in the receiver using the master transmitter. Programming one transmitter on several drives enables the creation of a group/central transmitter.

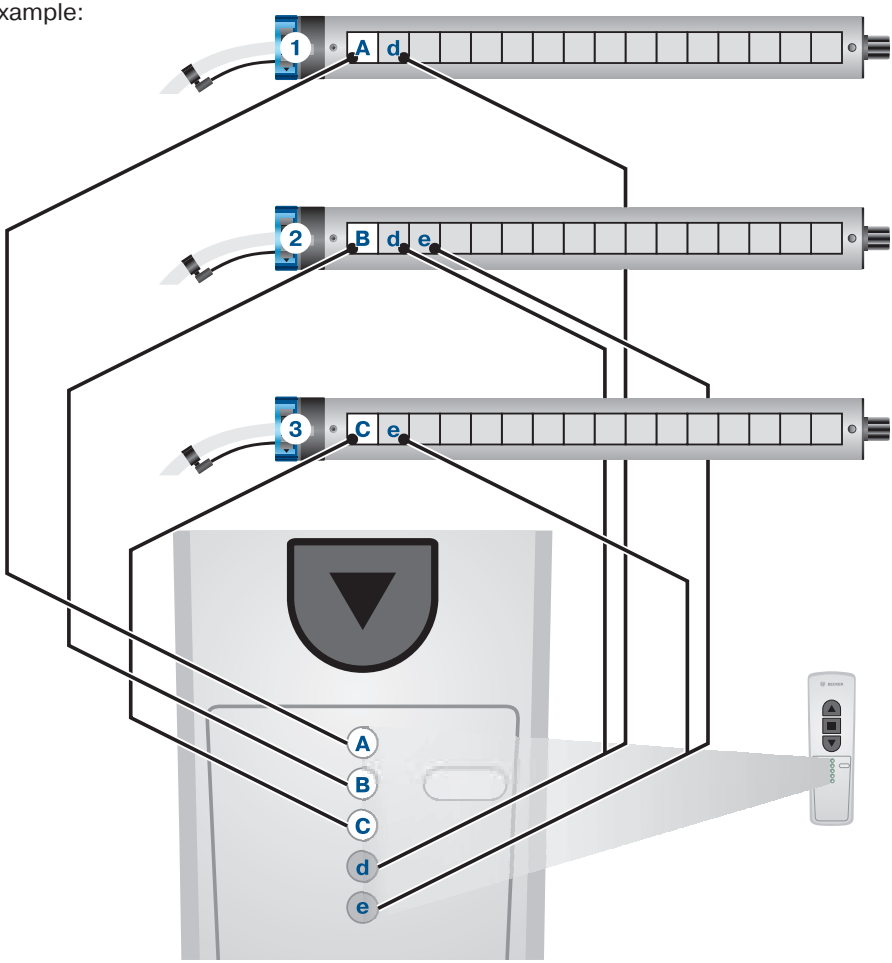
Example:



Single transmitter A (master transmitter) controls drive 1
Single transmitter B (master transmitter) controls drive 2
Single transmitter C (master transmitter) controls drive 3
Group transmitter d controls drive 1 and 2
Group transmitter e controls drive 2 and 3
Central transmitter f controls drive 1, drive 2 and drive 3

In the case of 5-channel transmitters, each channel behaves like a separate transmitter. If all of the channels are selected (all group LEDs light up), all of the receivers programmed into the transmitter are activated.

Example:



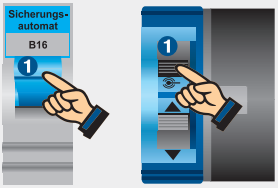
Channel 1 - „Single transmitter A“ (master transmitter) controls drive 1
Channel 2 - „Single transmitter B“ (master transmitter) controls drive 2
Channel 3 - „Single transmitter C“ (master transmitter) controls drive 3
Channel 4 - „Group transmitter d“ controls drives 1 and 2
Channel 5 - „Group transmitter e“ controls drives 2 and 3
Channel 6 - „Central transmitter“ (all group LEDs light up) controls drive1, drive 2 and drive 3

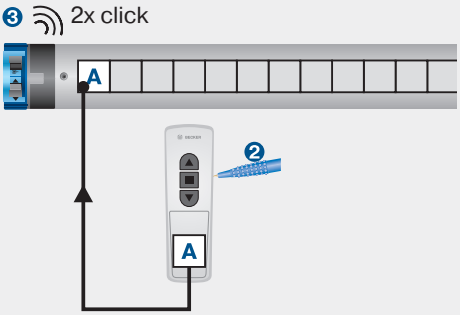
Programming the transmitter

Programming the master transmitter

Switch the mains voltage at the radio receiver (radio drive or external Centronic radio receiver) back on (power on) or switch the radio switch of the radio drive to the position or press the radio programming button of the external Centronic radio receiver ❶.

Then press the programming button for 3 seconds ❷ until the radio drive clicks twice ❸ or the external radio receiver acknowledges the programming by shifting briefly twice.



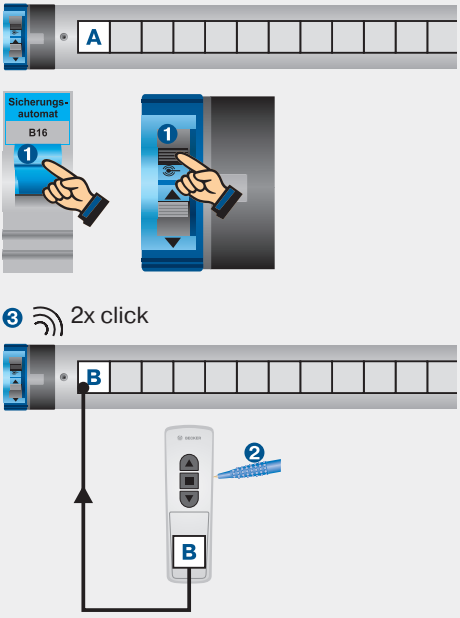


Overwriting the master transmitter

Programming a new master transmitter overwrites the old master transmitter. All other parameters programmed in the receiver are retained.

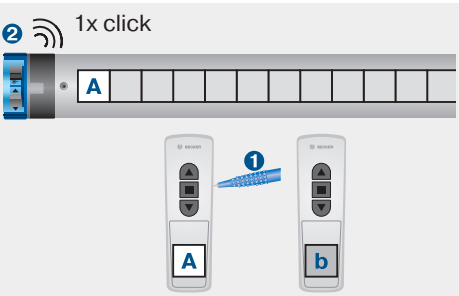
Switch the mains voltage at the radio receiver (radio drive or external Centronic radio receiver) back on (power on) or switch the radio switch of the radio drive to the position or press the radio programming button of the external Centronic radio receiver ❶.

Then press the programming button on the master transmitter to be reprogrammed for 10 seconds ❷ until the radio drive clicks twice ❸ or the external radio receiver acknowledges the programming by shifting briefly twice.

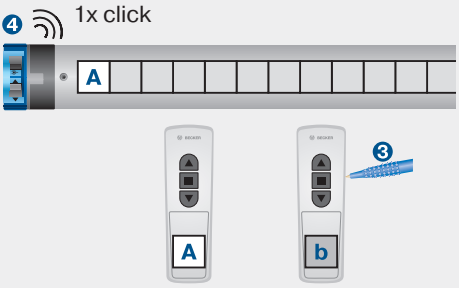


Programming more transmitters

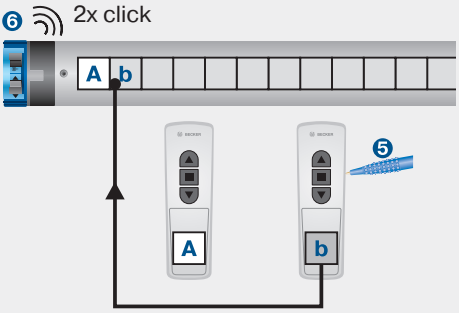
Press the programming button on the master transmitter for 3 seconds ❶ until the radio drive clicks once ❷ or the external radio receiver moves briefly once.



Then press the programming button at the transmitter to be reprogrammed for 3 seconds ❸ until the radio drive clicks once ❹ or the external radio receiver moves briefly once.



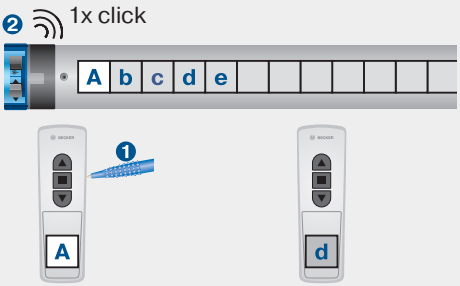
Then press the programming button on the transmitter to be reprogrammed again for 3 seconds ❺ until the radio drive clicks twice ❻ or the external radio receiver acknowledges the programming by shifting briefly twice.



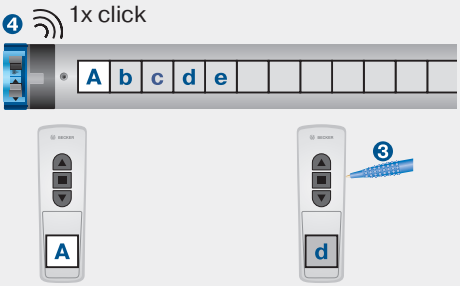
Deleting the transmitters

Deleting individual transmitters

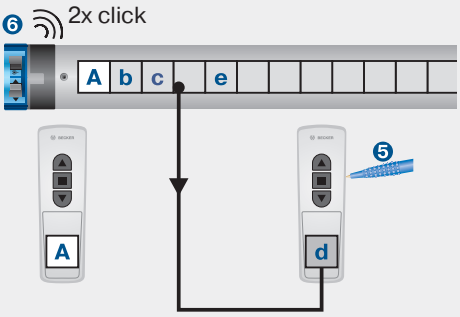
Press the programming button on the master transmitter for 3 seconds ❶ until the radio drive clicks once ❷ or the external radio receiver moves briefly once.



Then press the programming button on the transmitter to be deleted for 3 seconds ❸ until the radio drive clicks once ❹ or the external radio receiver moves briefly once.

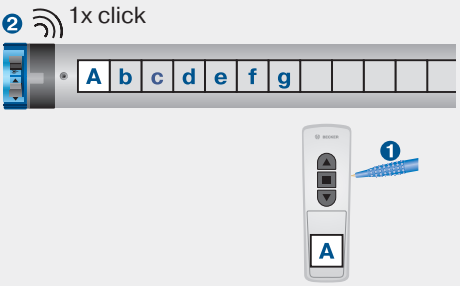


Then press the programming button on the transmitter to be deleted again for 10 seconds ❺ until the radio drive clicks twice ❻ or the external radio receiver acknowledges the deletion by shifting briefly twice.

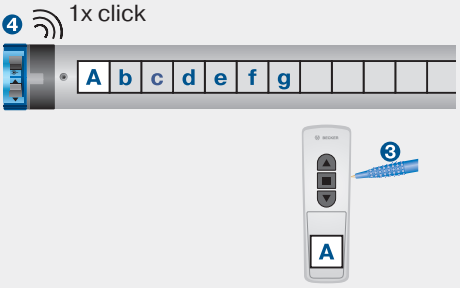


Deleting all transmitters (except the master transmitter)

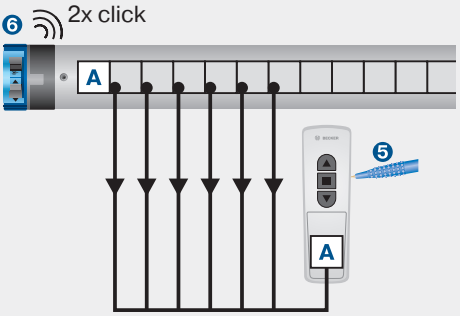
Press the programming button on the master transmitter for 3 seconds ❶ until the radio drive clicks once ❷ or the external radio receiver moves briefly once.



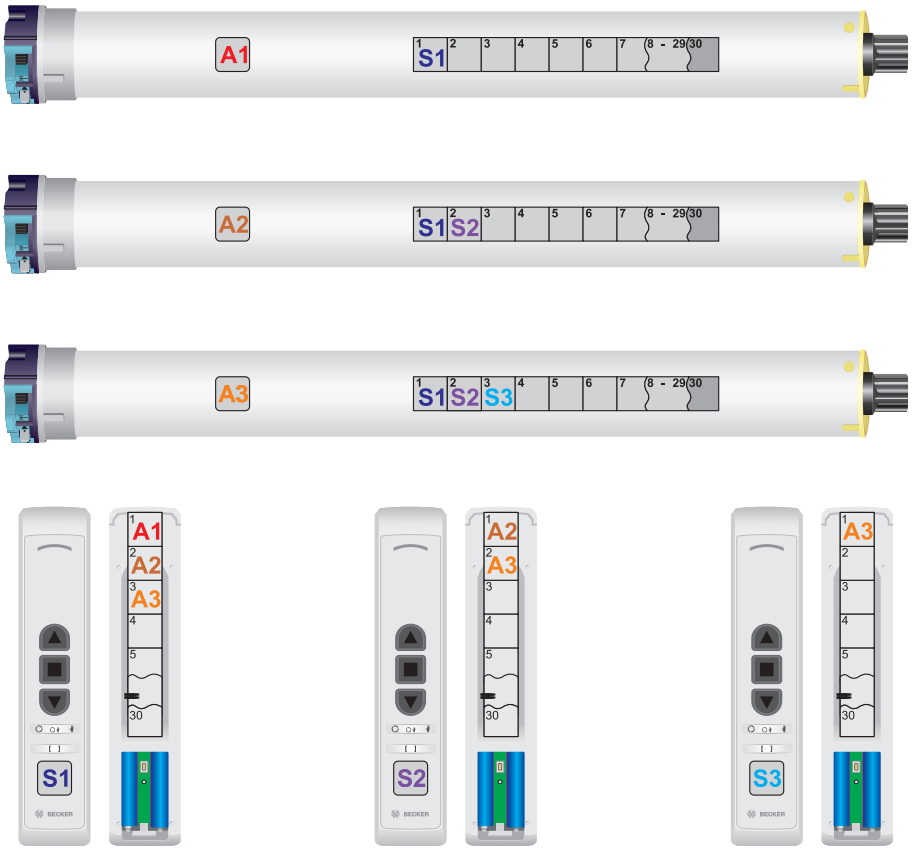
Press the programming button on the master transmitter again for 3 seconds ❸ until the radio drive clicks once ❹ or the external radio receiver moves briefly once.



Then press the programming button on the master transmitter again for 10 seconds ❺ until the radio drive clicks twice ❻ or the external radio receiver acknowledges the deletion by shifting briefly twice.



Operating principle: Single, group and central control unit configuration



Central transmitter S1 controls drive A1, A2 and A3
Group transmitter S2 controls drive A2 and A3
Single transmitter S3 controls drive A3

The transmitter is stored in the drive memory and the drive is stored in the transmitter memory by means of bidirectional programming (linking). This means the transmitter can send drive commands to the drive and the drive can send status signals back to the transmitter.

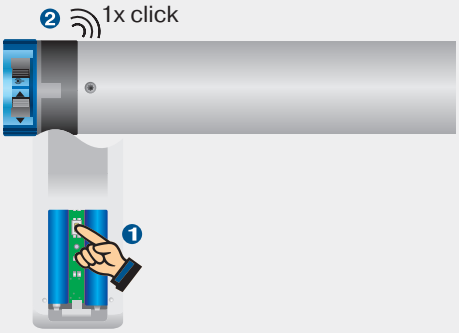
All drives stored in the manual transmitter can be controlled and programmed individually in the master mode.

Master mode

In order to perform „Becker-specific“ settings, e.g. programming of limit positions, the receiver must be put in the master mode.

Switching on master mode

Press the master button on a transmitter that has already been programmed ❶ repeatedly until the required drive clicks once ❷.



Leaving master mode

Press the manual/auto button ❶, until it no longer flashes ❷.

Receiver mode

Becker KNX-RF transmitters can control various KNX-RF receivers. In order to control a dimmer, for example, the relevant receiver mode must be set at the hand-held transmitter.

Querying the receiver mode

Press the programming ❶ and manual/auto button ❷ for 1 second. The LED ❸ flashes yellow to indicate which receiver mode is currently active.

Changing the receiver mode

Press the programming ❶ and manual/auto button ❷ for roughly 5 seconds. The LED ❸ flashes yellow to indicate which receiver mode is currently active, then the changeover to the following receiver mode takes place.

LED	Receiver mode
Flashes x 1	Roller shutter
Flashes x 2	Dimmer
Flashes x 3	On/Off switch
Flashes x 4	Blind
Flashes x 5	Screen
Flashes x 6	Roof window

Programming (linking) transmitters

Putting drive into programming mode

Ⓐ By switching the power on

Switch on the mains voltage at the B-Tronic radio drive ❶.

Ⓑ Via the switch on the drive

Switch the radio switch of the B-Tronic radio drive to the position.

Ⓒ Via a transmitter that is already programmed

Press the master button repeatedly ❶ until the drive clicks once ❷. Then press the programming button ❸ until the drive clicks once ❹.

Programming (linking) transmitters

Press the programming button on the new transmitter ❺ until the drive clicks twice ❻.

The status LED lights up green to confirm that the programming was successful.

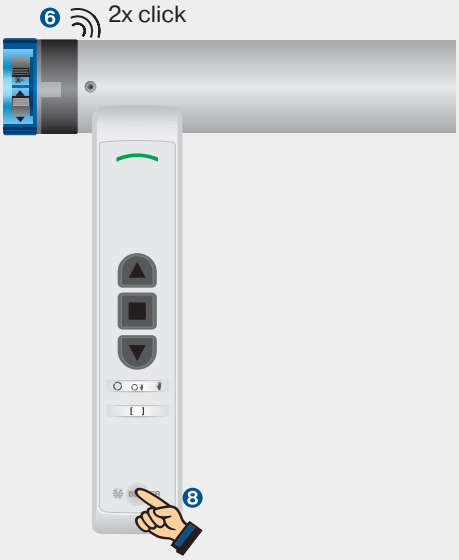
Clearing (unlinking) transmitters

Putting drive into clearing mode

Press the master button on a transmitter that has already been programmed ❶ so oftuntil the drive clicks once ❷. Then press the programming button on the same transmitter ❸ until the drive clicks once ❹. Press the programming button ❺ once again until the drive clicks once ❻.

Clearing (unlinking) transmitters

Press the programming button ❼ on the transmitter you wish to clear until the drive clicks twice ❽.



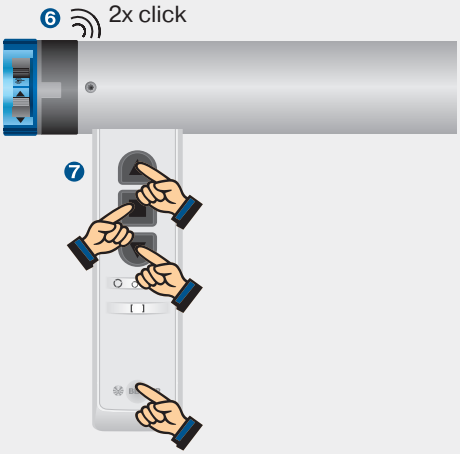
Deleting all transmitters in the drive

Putting drive into clearing mode

Press the master button on a transmitter that has already been programmed ❶ until the required drive clicks once ❷. Then press the programming button on the same transmitter ❸ until the drive clicks once ❹. Press the programming button ❺ once again until the drive clicks once ❻.

Clearing all transmitters in the drive

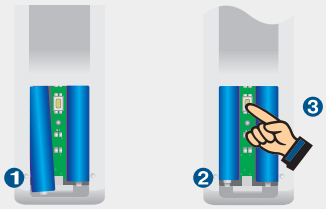
Now press the programming, UP, STOP and DOWN buttons on the same transmitter until the drive clicks twice ❼.



Deleting all drives in the hand-held transmitter

Restoring the factory settings of the hand-held transmitter

Remove one battery ❶ then reinsert it after 2 seconds ❷. Press the master button ❸ within one second and keep it pressed until the LED on the handheld transmitter stops flashing (after 5 seconds) and lights up green.



Deleting all receivers in the hand-held transmitter that are not responding

„Cleaning up“ the memory in the hand-held transmitter

You can delete specific receivers that are no longer responding but are still registered in the memory of the hand-held transmitter.

Make sure that you are within range of all responding receivers. Press the master button on the hand-held transmitter ❶ until the manual/auto button flashes ❷.

Press the programming button ❸ and keep it pressed until the LED on the hand-held transmitter lights up yellow ❹.

Then press the programming button ❺ and keep it pressed until the LED flashes yellow ❻.

Then press the programming button ❼ and keep it pressed until the LED flashes yellow again ❽ then flashes green ❾.

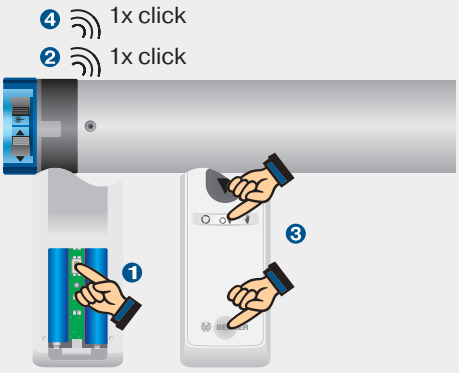
Repeater mode

Activating the drive as radio signal amplifier

Press the master button on a transmitter that has already been programmed ❶ until the drive clicks once ❷. Then press the programming and manual/auto buttons on the same transmitter ❸ until the drive clicks once ❹.

Deactivating the drive as radio signal amplifier

Perform the steps for activation described above until the drive clicks twice.



BECKER

Important safety instructions

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

Important safety instructions for handling tubular drives.

- Do not allow children to play with control units.
- 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.
- 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.

  Before installation, shut down all lines and control devices that are not essential for operation.
- If the mains connecting cable is damaged, it may only be replaced by the manufacturer.
- When installing the drive, a means of all-pole disconnection from the mains with a contact gap of at least 3 mm per pole must be provided (EN 60335).
- Stop and disconnect the equipment from the mains power supply when maintenance and cleaning is being performed either on the system itself or in the immediate vicinity of it.
- Drives with an H05VV-F connecting cable may only be used indoors.
- All applicable standards and regulations for electrical installation must be complied with.
- Systems have to be checked regularly by trained technicians for wear and damage.
- Always shut down damaged systems 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.
- Crushing or shearing points must be avoided or protected.
- Observe safety clearances in accordance with DIN EN 294.
- 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.
- 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, and 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 control devices within sight of the driven product at a height of over 1.5 m.
- 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.
- To connect the drive to the driven part, only use components from the current Becker mechanical accessory catalogue.

Important safety instructions for handling mains-operated control units.

- Keep children away from control units.
- Device contains small parts that can be swallowed.
- Risk of injury due to electric shock.
- Connections to the 230 V mains must always be performed by a qualified electrician.
- Disconnect the connecting cable from the power prior to installation.

- When connecting to the power supply, always comply with regulations of local energy supply companies as well as the VDE 100 provisions for wet and damp rooms.
- Keep people out of the system's range of travel.
- Only use in dry rooms (exception: VCJ470, VC410, VC510, SWC510).
- Only use original, unmodified Becker parts.
- Observe all pertinent country-specific regulations.
- Dispose of exhausted batteries properly. Only replace batteries with the same type.
- If the system is controlled by one or several appliances, the system's range of travel must always be visible during operation.
- When connecting the control cables (protected extra-low voltages), only use cables with sufficient electrical strength.

Important safety instructions for handling tubular drives with battery-operated and solar power-operated control units.

- Keep children away from control units.
- Device contains small parts that can be swallowed.
- Keep people out of the system's range of travel.
- Only use in dry rooms (exceptions: SC861, SC561, SC211, SC431).
- Only use original, unmodified Becker parts.
- Observe all pertinent country-specific regulations.
- Dispose of exhausted batteries properly. Only replace batteries with the same type.
- If the system is controlled by one or more transmitters, the system's range of travel must always be visible during operation.

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