

Compact-Electric

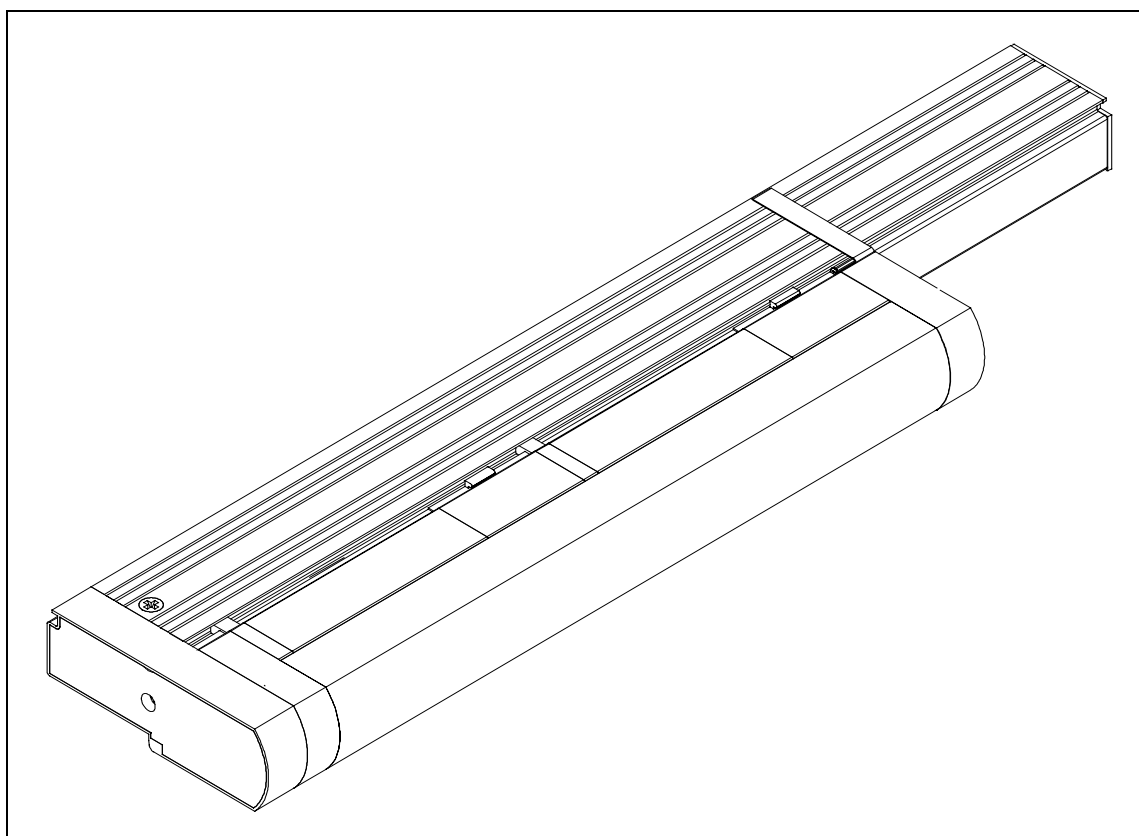


Table of contents:

Compact-Electric	1
Introduction	2
What the motor is doing	2
Technical Data	3
Mounting instruction	4
Sawing the rail	4
Drilling the holes	4
Building the carrier track	4
Mounting the end cap (operating side)	5
Aligning the carrier track	5
Mounting the shaft adapter	5
Mounting the end cap (non operating side)	6
Fitting the wheels into the end cap (operating side)	6
Positioning the chain	6
Tension of the chain	7
Mounting the end cap cover (operating side)	7
Fixing the motor onto the head rail	7
Adjusting the motor	9
Setting end positions for traversing	10
Setting end positions for rotation	12
Resetting end positions for traversing	14
Resetting end positions for rotation	16
Adjusting the motor to system specifics	18
Overall drawing - Components	19

Introduction

There are four types of the electrical motor available for COMPACT head rails:

1. Standard-Left (for non-Slope systems with up to 40 runners with the motor on the left behind the rail)
2. Standard-Right (for non-Slope systems with up to 40 runners with the motor on the right behind the rail)
3. More Powerful-Left (for non-Slope systems with more than 40 and up to 60 runners with the motor on the left behind the rail)
4. More powerful-Right (for non-Slope systems with more than 40 and up to 60 runners with the motor on the right behind the rail)

The motor can be placed either before or behind the head rail.

All motor types contain the same components. You need left or right components only for connecting it to the rail. The components in questions are the end cap (operating side) and the cover (operating side).

Mounting an electrical COMPACT system is very similar to mounting a manually driven COMPACT system. This means whoever can build a cord drive system can also build an electrical system.

The only difference here to building a cord drive system, is the drive unit used and the connection between the tilt rod and the shaft adapter. Furthermore the tilt rod must always be placed motor handed within the head rail, i.e. if the motor is placed behind the rail, the tilt rod must be placed window sided.

The motor is equipped with an electronic control for the movements which also avoids any overload situations.

What the motor is doing

There are several ways of adjusting the motor, which is described in detail in the chapter „Adjusting the motor“.

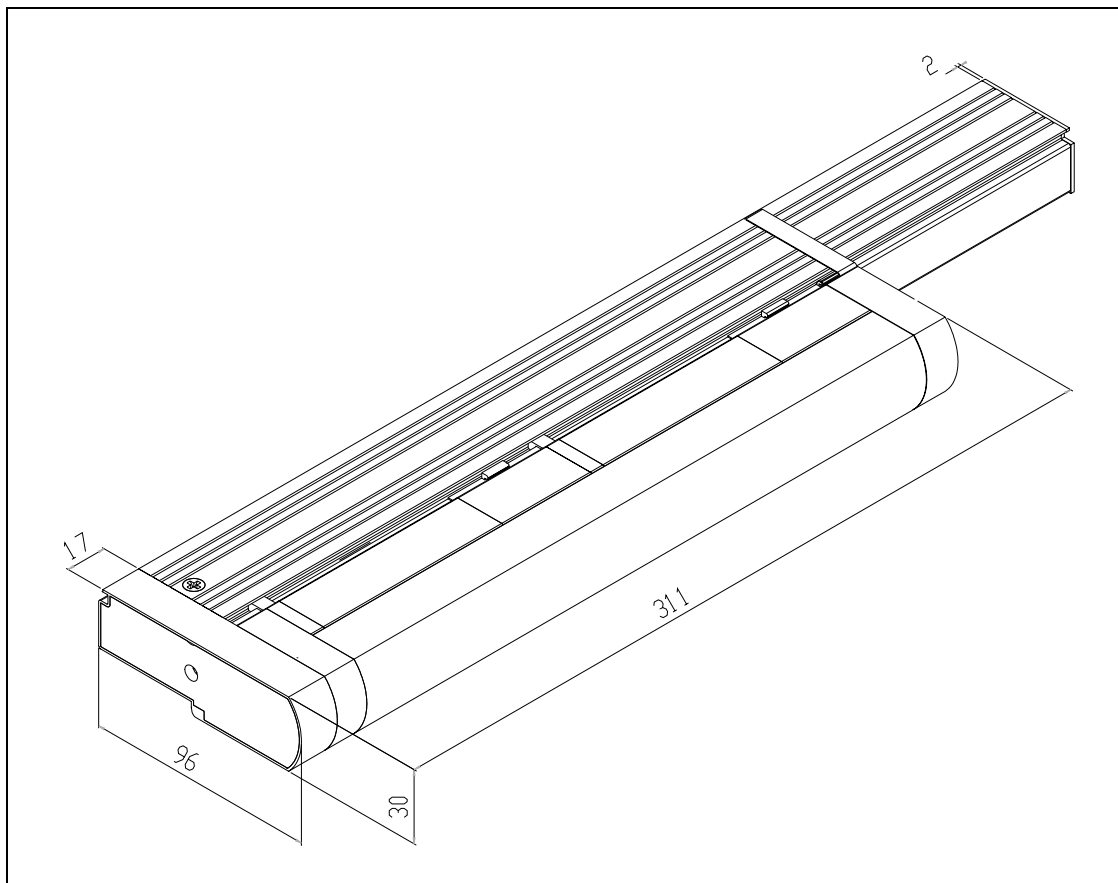
During normal operation the slats will move to one of the rotation end positions after turning on the motor. After a short waiting period they will rotate back into a 90° position. Should the slats be in the bunch position, they will not rotate. Once the slats have moved to the 90° position they will move onto one of the two end positions for traversing. As soon as the end position for closing is reached, the slats will move into one of the rotation end positions to close the blind fully.

This procedure can be finished at any point by turning off the motor.

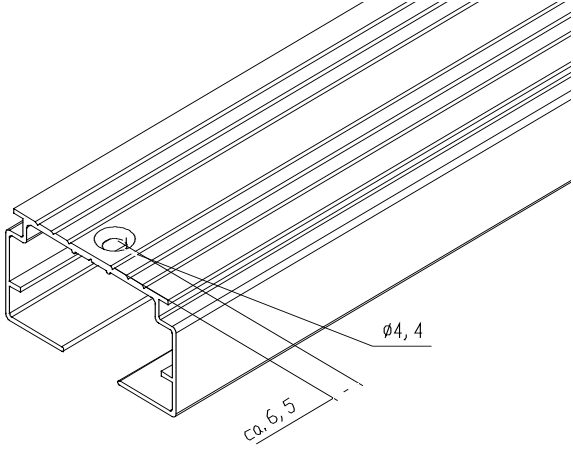
Position of shade	Traversing movement	What the motor is doing
opened	Traversing in direction of the bunch	No action.
opened	Traversing away from the bunch	Slats are moving away from bunch. When reaching the closing end position the slats will rotate until the shade is fully closed.
Closed or between two positions	Traversing in direction of the bunch	The slats rotate until one of the rotation end positions is reached. Then they rotate back into the 90° position. After that they will traverse back into bunch position.
closed	Traversing away from the bunch	The slats rotate until one of the rotation end positions is reached. (Should the shade already been fully closed nothing happens).
Between two positions	Traversing away from the bunch	The slats rotate until one of the rotation end positions is reached . After that they rotate back into the 90°position. Then the slats are traversing into closing position. Finally the slats rotate until the shade is fully closed.

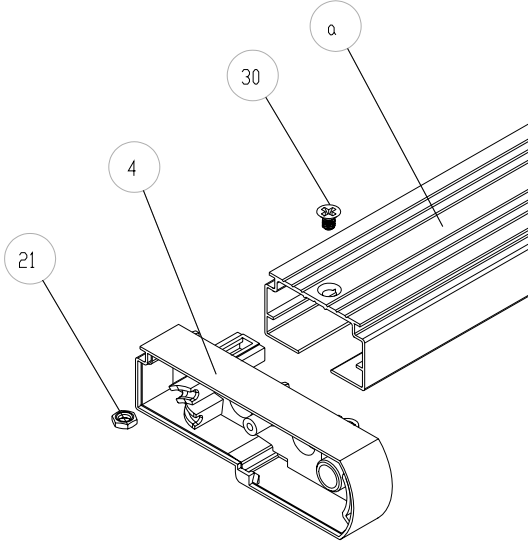
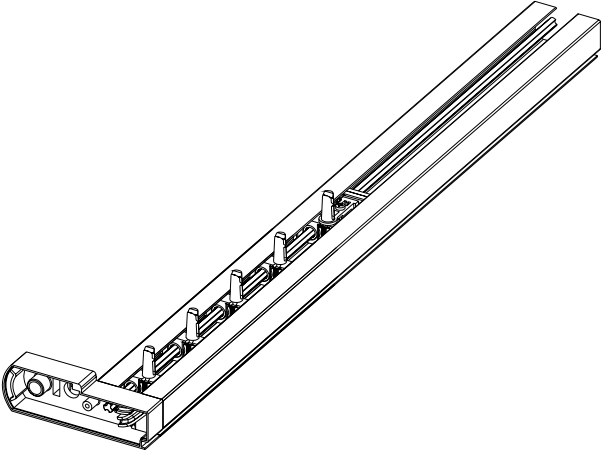
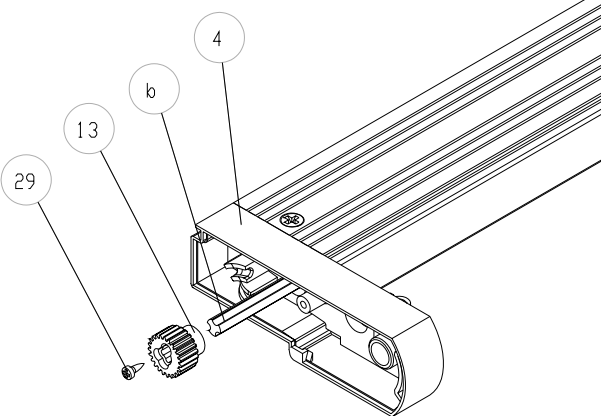
Technical Data

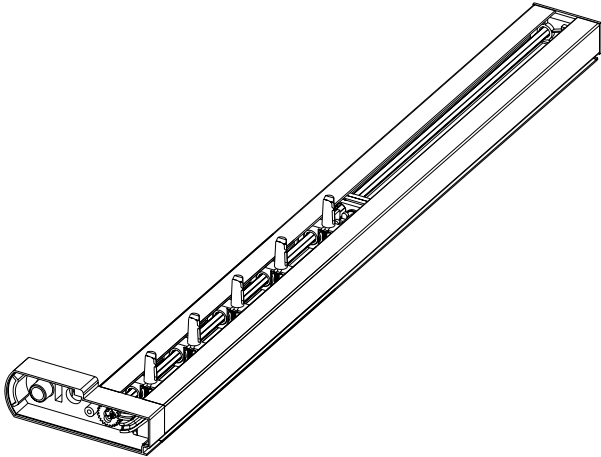
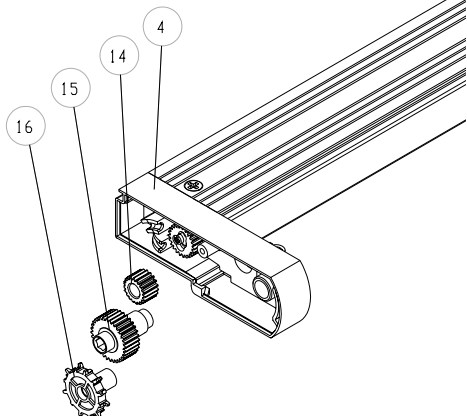
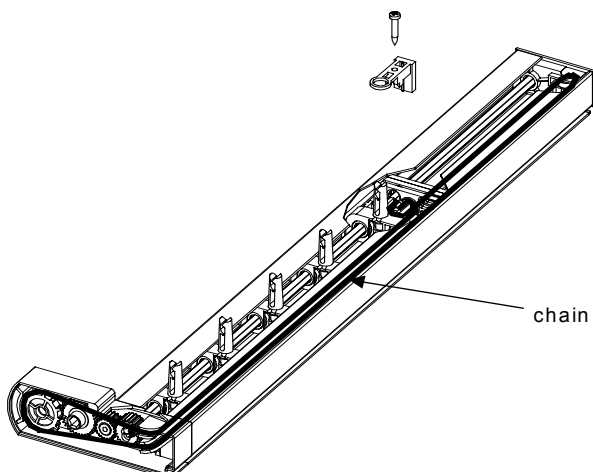
Operating voltage:	24 Volt (-) You need a 24 Volt D.C. power supply
Power intake:	max. 0,5 Ampere
Length:	about 311 millimeters
Depth (incl. Head rail):	about 96 millimeters
Height:	about 30 millimeters
Standard version traversing speed:	about 160 millimeters/second
More powerful version traversing speed:	about 80 millimeters/second
Standard version traction force:	about 25 N
More powerful version traction force:	about 50 N
Maximum length of rail:	4,5 meters
Maximum number of runners:	45
Maximum weight of slats:	4,5 kilograms

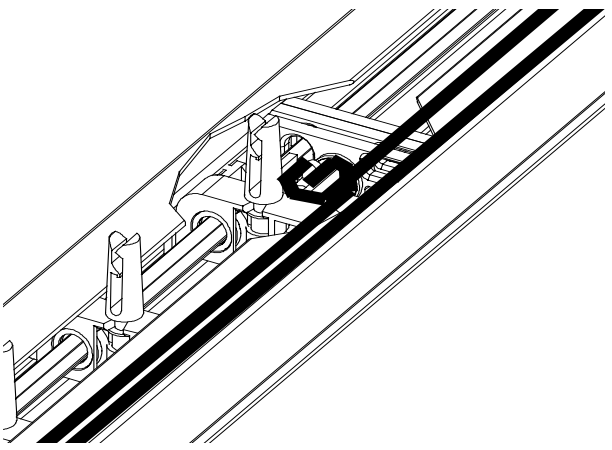
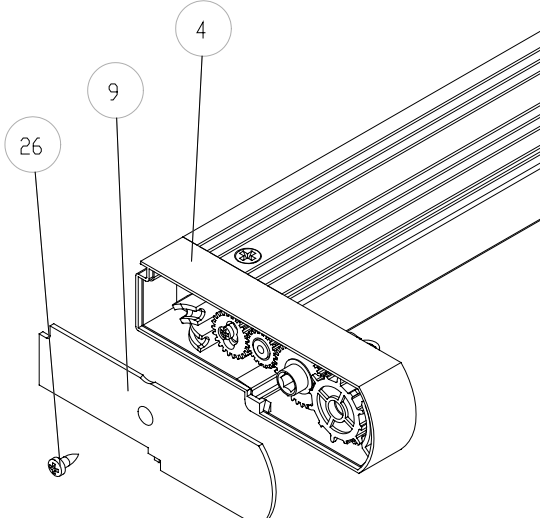
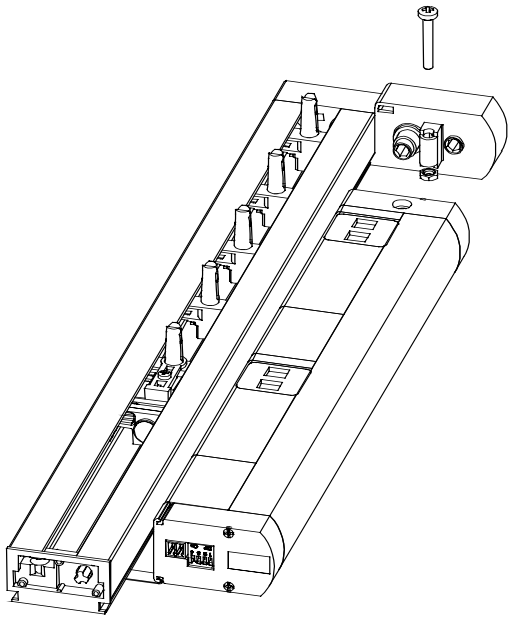


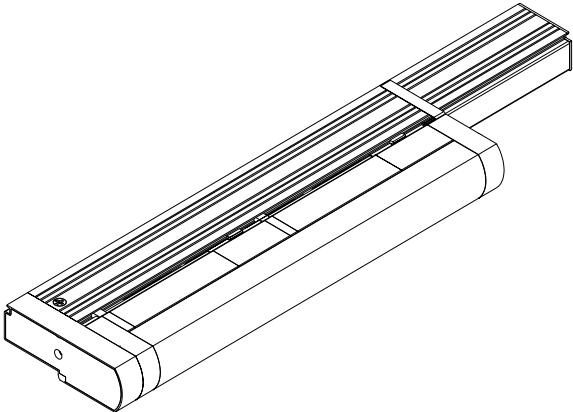
Mounting instruction

1	Sawing the rail The COMPACT electric motor has been adapted to the COMPACT rail, however it is also possible to use it with the OMEGA rail. We recommend using a 6 mm 3 edge tilt rod, however a 6 mm 4 edge tilt rod can also be used.	Measurements for sawing are as follows: Length of rail = Length of system – 19 mm Length of tilt rod = Length of system – 10 mm															
2	Drilling the holes The drilling of the holes for COMPACT electrical systems is similar to the drilling of holes for the COMPACT slope systems. In order to fix the end cap (operating side) you have to drill a hole into the rail. This hole must be placed in the centre of the rail back, at a distance of about 6.5 mm from the rail end (operating side) and must have a diameter of 4.4 mm. The hole must be countersunk by 1.5x90°. Furthermore you have to drill the holes for the shaft supports, if in use.	 The diagram shows a cross-section of a rail with a hole. A dimension line indicates a distance of 'ca. 6,5' from the end of the rail to the center of the hole. Another dimension line indicates the hole diameter as 'ø4,4'.															
3	Building the carrier track The direction of the carrier tracks in electrical systems is different to the direction used for carrier tracks in manually driven systems. Please use the direction of carrier tracks given in the table: Having built the carrier track you slide it onto the tilt rod. Do not forget the shaft supports, centre supports, distance tubes and setting ring, if in use. We recommend also to put on the stopping rings at this point (while tilt rod and carrier track are still outside the rail).	Position of motor <table border="1"> <thead> <tr> <th>Position of motor</th> <th>bunch</th> <th>carrier track</th> </tr> </thead> <tbody> <tr> <td>behind right</td> <td>right</td> <td>left</td> </tr> <tr> <td>behind right</td> <td>left</td> <td>right</td> </tr> <tr> <td>behind left</td> <td>right</td> <td>left</td> </tr> <tr> <td>behind left</td> <td>left</td> <td>right</td> </tr> </tbody> </table>	Position of motor	bunch	carrier track	behind right	right	left	behind right	left	right	behind left	right	left	behind left	left	right
Position of motor	bunch	carrier track															
behind right	right	left															
behind right	left	right															
behind left	right	left															
behind left	left	right															

4	Mounting the end cap (operating side) For mounting the end cap (operating side) onto the rail (a) you must drill a countersunk hole (diameter 4.4 mm) at a distance of about 6.5 mm from the rail end. Once the nut (21) has been inserted into the end cap (operating side) (4), the rail (a) can be inserted into the end cap (4) and fixed with a screw (30).	
5	Aligning the carrier track Now you can insert the combination of tilt rod with carrier track into the rail. Afterwards you have to align the carrier track. For this purpose you have to pull out the tilt rod at one end for about 1-2 cm. Then keep rotating it (if needed use pliers to do so) until all slat hooks are pointing into the same direction. Then rotate the tilt rod back for about 2.5 rotations until the hooks are placed in a 90° position.	
6	Mounting the shaft adapter To connect the shaft adapter (13) to the tilt rod (b) the tilt rod is first pushed out of the end cap (operating side) (4) for some centimeters. Now the shaft adapter is pushed onto the tilt rod. Thereby you need to ensure that two of the notches in the adapter are placed corresponding to two edges of the tilt rod. The front side of the tilt rod should reach the bottom of the notches in the adapter. Into one or two of the resulting almost circular holes you have to screw in a screw (29) until its head is fully entered into the notch of the adapter. Afterwards you push back the tilt rod with the adapter on it into the end cap (operating side). When using a 4 edge tilt rod, as well as for systems with more than 40 runners you have to use two screws (29). Otherwise one is enough.	

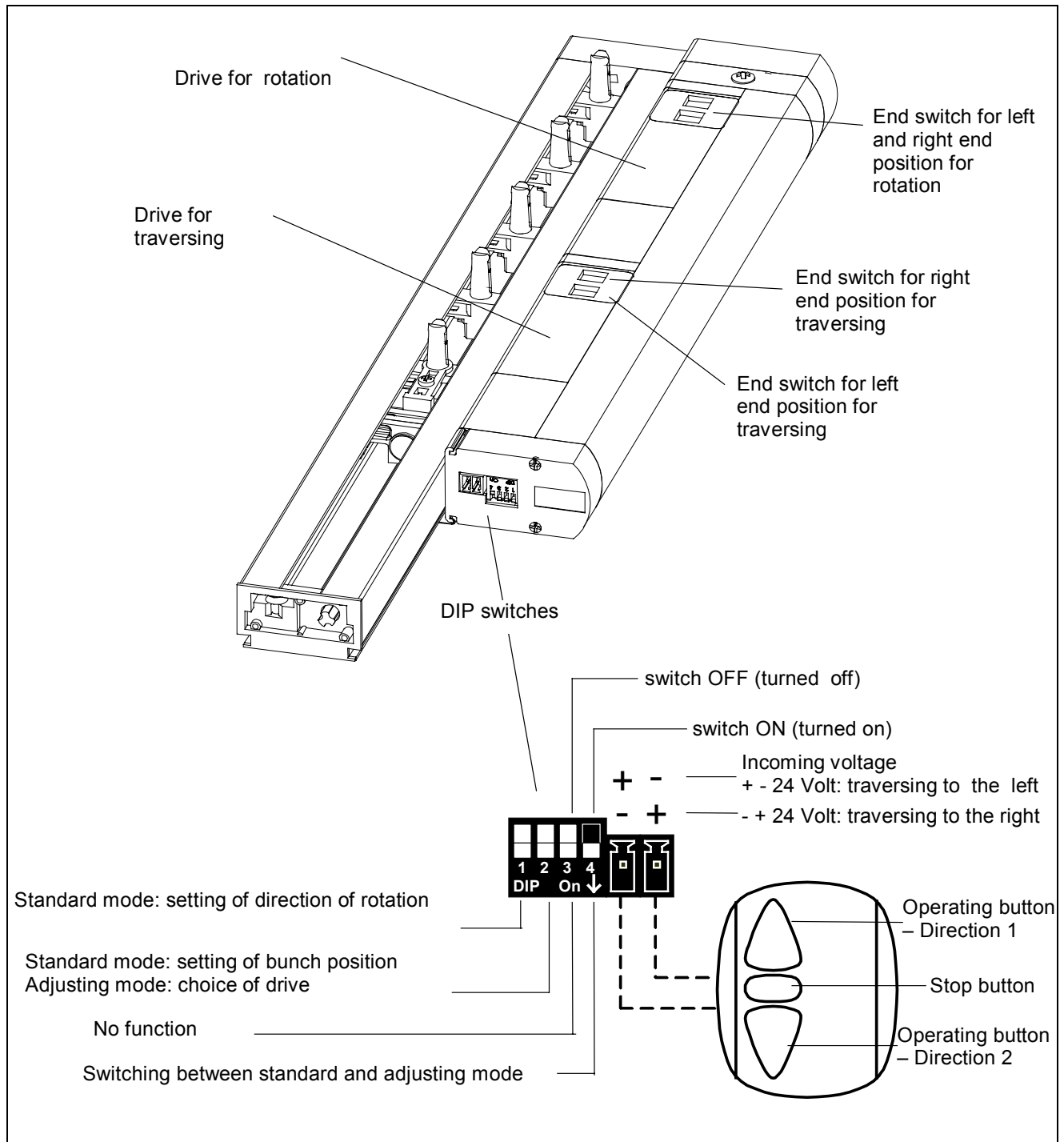
7	Mounting the end cap (non operating side) The left/right position of the end caps in COMPACT electric systems is different from the one used in manually driven systems. The following table shows which end cap (non operating side) must be used for which type of motor: <table><tr><td>Position of motor</td><td>End cap</td></tr><tr><td>Behind rail, right side</td><td>Left</td></tr><tr><td>Behind rail, left side</td><td>Right</td></tr></table> Like in manually driven systems, in the COMPACT-Electric a washer is driven onto the non operating side to close it.	Position of motor	End cap	Behind rail, right side	Left	Behind rail, left side	Right	
Position of motor	End cap							
Behind rail, right side	Left							
Behind rail, left side	Right							
8	Fitting the wheels into the end cap (operating side) The middle wheel (14), the pinion (15) and the chain wheel (16) are inserted into the end cap (operating side) (4) as shown in the drawing.							
9	Positioning the chain The chain is put as shown in the drawing into the positioning channels in the end cap (operating side) and around the chain wheel. Positioning the chain inside the end cap (non operating side) and fixing it to the drive runner is done exactly as for the cord of a manually driven system.							

10	Tension of the chain You must ensure a certain tension of the chain. The free running part of the chain should be taut, but should not cause a whirring sound when being pulled. This can easily be achieved by taking hold of the end of the chain that is coming through the carrier track and positioning it first around the drive runner and then in the slot in the drive runner (chain side). The other end of the chain can then be tightened manually and inserted between runner and drive runner into the second slot in the drive runner. Now the chain can be fixed with a clip or with the magnet shaft support.	
11	Mounting the end cap cover (operating side) To finish the mounting of the rail the cover (9) is pressed onto the end cap (4) (operating side) and fixed by a screw (26).	
12	Fixing the motor onto the head rail Before mounting the motor, please ensure that the drive runner is placed approximately in the middle of the traversing distance, that the hooks have been aligned and redirected to 90° and that the motor has been moved into bunch position. (The bunch position of the motor is the position in which the motor is not rotating the slats after reaching this position). The motor is simply pushed onto the end cap (operating side) and fixed by a screw (M4x25).	

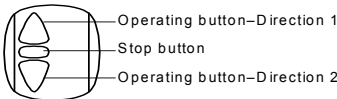
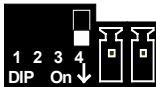
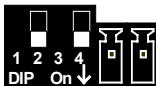
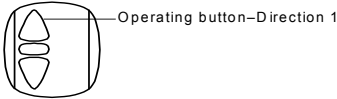
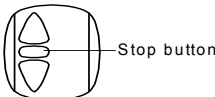
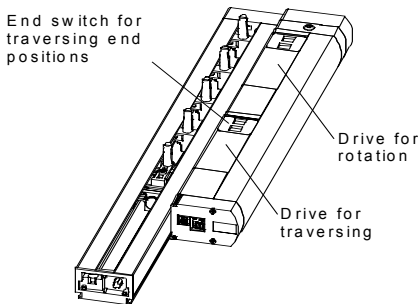
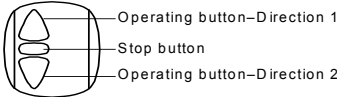
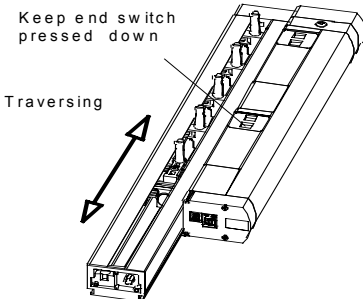
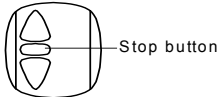
12	The other side of the motor is fixed to the rail by a stainless steel clip.	
13	Afterwards you have to adjust the motor (see chapter „Adjusting the motor”)	
14	To avoid any damage during transport we recommend to fix the motor onto the rail additionally with tape, a cable binder or a similar means.	

Adjusting the motor

The motor contains two separate driving units for traversing and for rotating the slats. Both of them are turned off by mechanical end switches when reaching the end positions. Furthermore both drives have been equipped with an electronical turn off in case of overload. The motor comes out of production with a pre-adjustment to a system length of a few centimetres and to a slat rotation of a few degrees. The motor is put into adjusting mode by a coding switch (DIP switch no. 4). The adjusting mode is used for setting easily the end positions for traversing and rotation. After having done so, you must adjust the motor to the specific data of the system (bunch position, direction of rotation) (see "Adjusting the motor to system specifics").

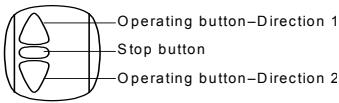
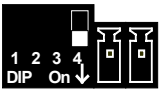
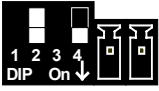
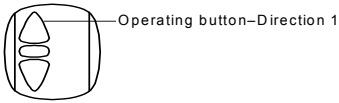
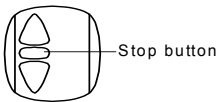
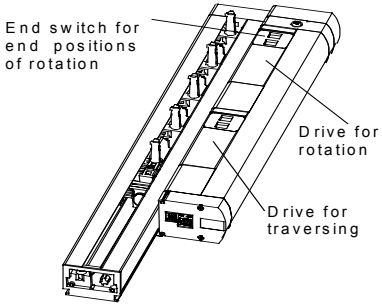
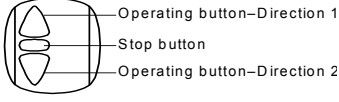
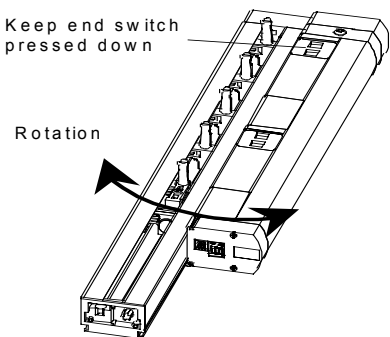
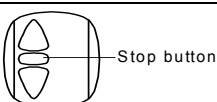


Setting end positions for traversing

Step	Description	Picture
1	Turn the slats into 90° position and turn off the motor (by pressing the STOP button on your power supply unit).	
2	Put the DIP switch no. 4 in ON position. The motor is now in adjusting mode. (The DIP switches 1 and 3 have no function in adjusting mode)	
3	Put the DIP switch no. 2 in ON position. Now the mechanical end positions for traversing can be set.	
4	Turn on the motor (by pressing the Operating button – Direction 1). The system is now moving to the first end position for traversing. Should the system not be moving, this means the motor has already reached the first end position.	
5	Turn off the motor. (By pressing the Stop button)	
6	Now the end switch for the first traversing end position on the motor is active , i.e. at least one of the two end switches can be easily pressed down by using a screw driver or similar device. There will be a clicking sound while doing so. Keep this switch pressed down.. Should pressing down not be possible for the end switches, the traversing distance pre-set in the motor was too long. The distance must be reset. (see „Resetting of end positions for traversing“).	
7	As long as the end switch is kept pressed down, you can set the first traversing end position by using the operating buttons in either direction. If you press the operating button shortly the system will move only a few millimeters, if you press it for longer than a second the system continues moving when you take your finger off the button. If you then want to stop traversing you have to press the stop button on the power supply unit.	 
8	Once you reach the desired end position, press the stop button. The drive runner should then be positioned 2 mm before bunch position (or closed position). The carrier track should neither be tightly torn nor pressed together.	

9	Now you can stop pressing down the end switch. This end position has been set now.	
↑	Repeat this procedure for the opposite traversing direction, starting at Step 4, to set the second end position.	
10	Press the Stop button on your power supply unit. Then put the DIP switch no. 4 in OFF position. The motor is now back in standard mode.	
	Now the end positions for rotation must be set. (see "Setting end positions for rotation"). If the end positions for rotation have already been set, you must now adjust the motor to the system specifics. (see „Adapting the motor to system specifics“)	

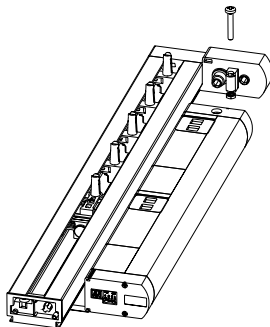
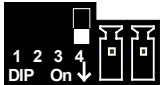
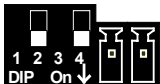
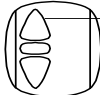
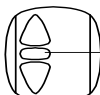
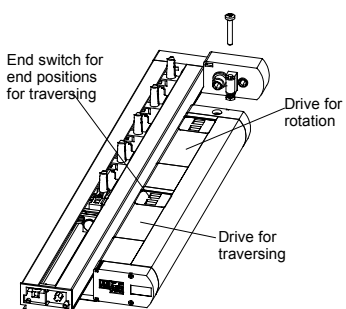
Setting end positions for rotation

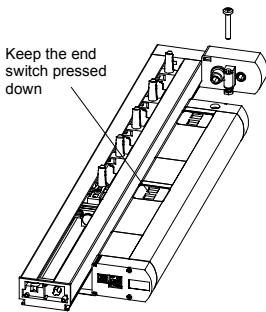
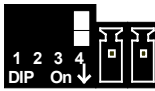
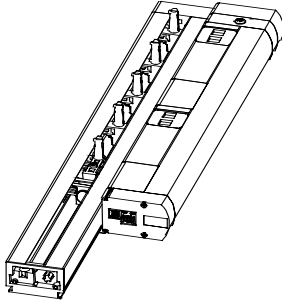
Step	Description	Picture
1	Turn the slats into 90° position and turn off the motor (by pressing the Stop button on your power supply unit).	
2	Put the DIP switch no. 4 in ON position. The motor is now in adjusting mode. (The DIP switches 1 and 3 have no function in adjusting mode)	
3	Put the DIP switch no. 2 in OFF position. Now you can set the mechanical end positions for rotation.	
4	Turn on the motor (by pressing the Operating button – Direction 1). The slats are now rotating until they reach the first end position. Should the slats not be rotating, this means the motor has already reached the first end position..	
5	Turn off the power supply unit. (By pressing the Stop button)	
6	Now the end switch for the first end position for rotation on the motor is active , i.e. at least one of the two end switches can easily be pressed down by using a screw driver or similar device. There will be a clicking sound while doing so. Keep this switch pressed down.. Should pressing down not be possible for the end switches, the rotation distance pre-set in the motor was too long. The distance must be reset. (see „Resetting end positions for rotation“).	
7	As long as the end switch is kept pressed down, you can set the first end position for rotation by using the operating buttons in either direction. If you press the operating button shortly the slats will rotate for only a few degrees, if you press it for longer than a second the slats continue rotating when you take your finger off the button. If you then want to stop the rotation movement you have to press the stop button on the power supply unit.	 
8	Once you reach the desired end position, press the stop button.	

9	Now you can stop pressing down the end switch. This end position has been set now.	
↑	Repeat this procedure for the opposite rotation direction, starting at Step 4, to set the second end position.	
10	Press the Stop button on your power supply unit. Then put the DIP switch no. 4 in OFF position. The motor is now back in standard mode.	
	Now the end positions for traversing must be set. (see "Setting end positions for rotation"). If the end positions for traversing have already been set, you must now adjust the motor to the system specifics. (see „Adapting the motor to system specifics“)	

Resetting end positions for traversing

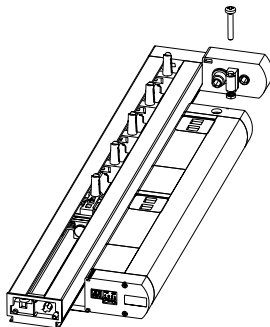
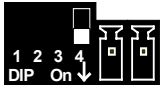
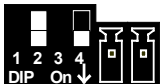
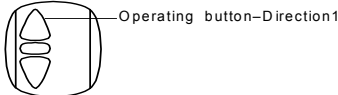
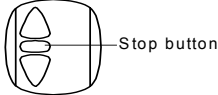
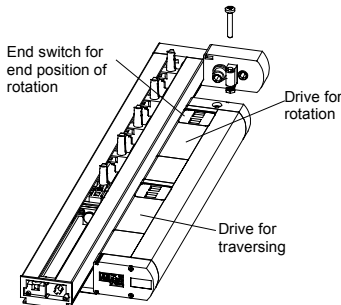
The end positions for traversing must be reset only if the setting of the distance for traversing is too long, i.e. if at least one of the end positions for traversing is lying outside the rail.

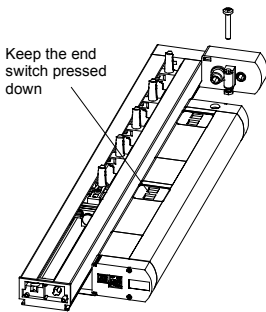
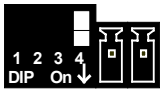
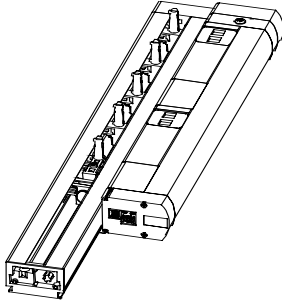
Step	Description	Picture
1	Take the motor off the head rail.	
2	Put the DIP switch no. 4 in ON position. The motor is now in adjusting mode. (The DIP switches no. 1 and 3 have no function in adjusting mode.)	
3	Put the DIP switch no. 2 in ON position. Now the mechanical end positions for traversing can be reset.	
4	Turn on the motor (by pressing the operating button for direction 1). The motor is now traversing to its first end position. This can take some minutes. Should the motor not be moving, it has already reached its first end position.	 Operating button—Direction 1
5	Turn off the power supply unit (by pressing the Stop button)	 Stop button
6	Now the end switch for the first traversing end position on the motor is active, i.e. at least one of the two end switches can be easily pressed down by using a screw driver or similar device. There will be a clicking sound while doing so. Keep this switch pressed down. (see drawing)	 End switch for end positions for traversing Drive for rotation Drive for traversing

7	While still keeping pressed down the end switch, turn the motor back on by pressing the operating button for the opposite direction (direction 2). Then let the motor run until it stops automatically. This can take some minutes.	 Operating button—Direction 2  Keep the end switch pressed down
8	Now you can stop pressing down the end switch. The motor is now set so that both end positions are equal. Both end positions can then be set as desired, following the description in „Setting end positions for traversing“. Please note that the slats can only be moved if the end positions are not equal, i.e. in this state the motor cannot traverse.	
9	Turn off the power supply unit. (By pressing the Stop button)	 Stop button
10	Put the DIP switch no. 4 into OFF position. The motor is now back to standard mode.	 1 2 3 4 DIP On ↓
11	Fix the motor to the head rail again. Before you do so the drive runner must be placed in the middle of the traversing distance and the hooks must have been aligned and set to 90°. Now the procedure for setting the end positions for traversing must be gone through once more. (see “Setting end positions for traversing”).	

Resetting end positions for rotation

The end positions for rotation must be reset only if the distance for rotation is too long.

Step	Description	Picture
1	Take the motor off the head rail.	
2	Put the DIP switch no. 4 in ON position. The motor is now in adjusting mode. (The DIP switches no. 1 and 3 have no function in adjusting mode.)	
3	Put the DIP switch no. 2 in OFF position. Now the mechanical end positions for rotation can be reset.	
4	Turn on the motor (by pressing the operating button for direction 1). The motor is now rotating until it reaches its first end position. This can take some minutes. Should the motor not be moving, it has already reached its first end position.	
5	Turn off the power supply unit. (By pressing the Stop button)	
6	Now the end switch for the first end position for rotation on the motor is active , i.e. at least one of the two end switches can be easily pressed down by using a screw driver or similar device. There will be a clicking sound while doing so. Keep this switch pressed down. (see drawing)	

7	While still keeping pressed down the end switch, turn the motor back on by pressing the operating button for the opposite direction (direction 2). Then let the motor run until it stops automatically. This can take some minutes.	 Operating button—Direction 2  Keep the end switch pressed down
8	Now you can stop pressing down the end switch. The motor is now set so that both end positions are equal. Both end positions can then be set as desired, following the description in „Setting end positions for rotation“. Please note that the slats can only be rotated if the end positions are not equal, i.e. in this state the motor cannot rotate.	
9	Turn off the the power supply unit (by pressing the Stop button).	 Stop button
10	Put the DIP switch no. 4 into OFF position. The motor is now back to standard mode.	 1 2 3 4 DIP On ↓
11	Fix the motor to the head rail again. Before you do so the drive runner must be placed in the middle of the traversing distance, the hooks must have been aligned and set to 90°. Now the procedure for setting the end positions for rotation must be gone through once more. (see “Setting end positions for rotation”)	

Adjusting the motor to system specifics

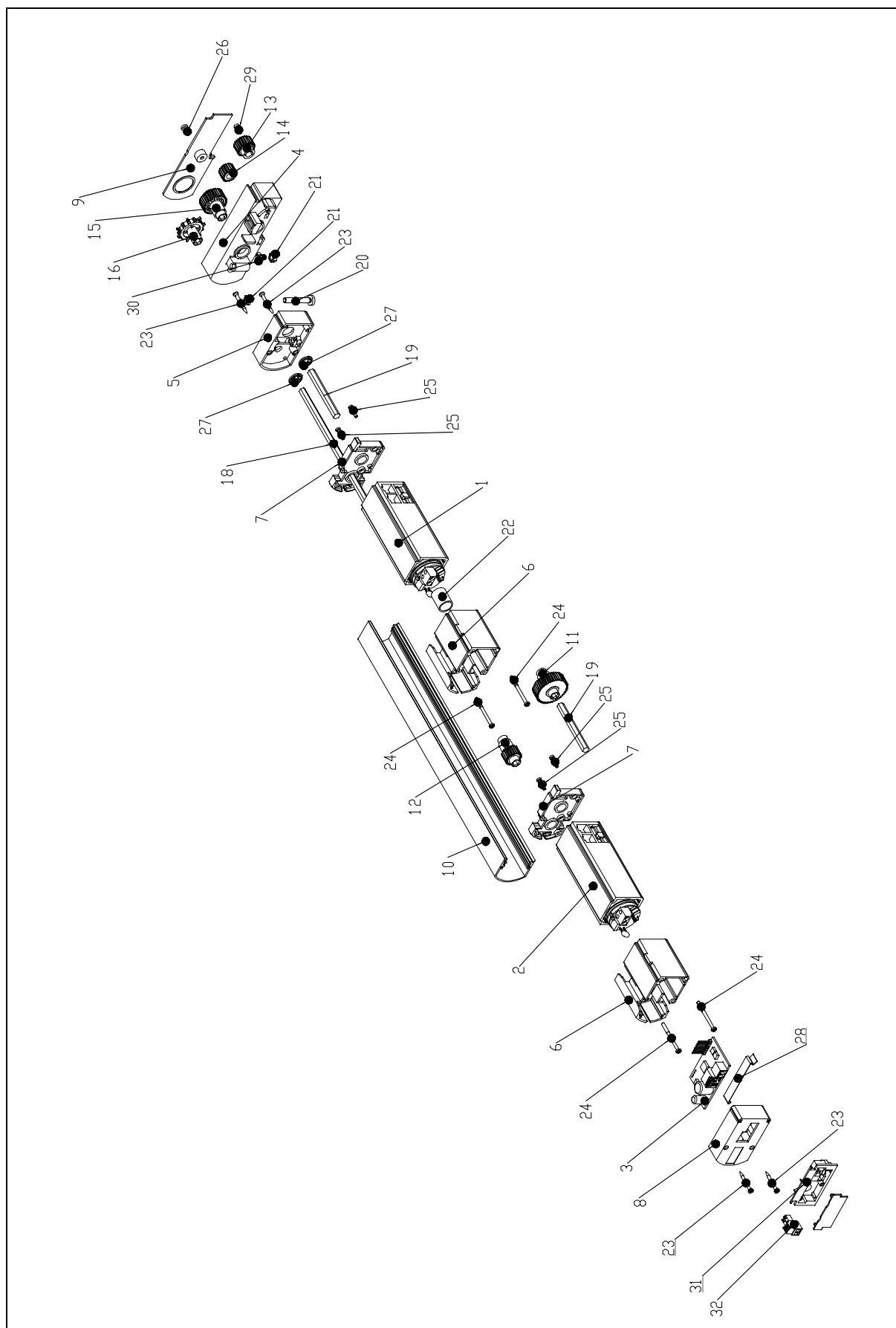
The motor is adjusted to the specific system data by DIP switches:

Position of motor	Position of bunch	DIP switch	
Left	Left	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: On DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Left	Right	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: Off DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Left	Left and right	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: On DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Left	Centre	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: Off DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Right	Left	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: On DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Right	Right	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: Off DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Right	Left and right	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: Off DIP 3: either position DIP 4: Off	 rotation to right rotation to left
Right	Centre	DIP 1: On; rotation to left DIP 1: Off; rotation to right DIP 2: On DIP 3: either position DIP 4: Off	 rotation to right rotation to left

After adapting the motor to the specific system data and after controlling all settings the system is finished.

To avoid any damage during transport we recommend to fix the motor onto the rail additionally with tape, a cable binder or a similar means.

Overall drawing - Components



Pos.	quantity	Article no.	Description	Standard		More powerful	
				left	right	left	right
1	1	3 900 308 000	Drive for rotation	•	•	•	•
2	1	3 900 309 000	Drive for traversing	•	•	•	•
3	1	3 900 310 000	Control unit	•	•	•	•
4	1	3 900 312 001	End cap, operating side, left	•		•	
	1	3 900 312 001	End cap, operating side, right		•		•
5	1	3 900 313 001	Coupling plate	•	•	•	•
6	2	3 900 314 001	Drive housing	•	•	•	•
7	2	3 900 315 001	Shaft support	•	•	•	•
8	1	3 900 316 001	Socket cover	•	•	•	•
9	1	3 900 318 001	End cap cover, operating side, left	•		•	
		3 900 317 001	End cap cover, operating side, right		•		•
10	1	3 900 301 001	Valence	•	•	•	•
11	1	3 900 319 000	Pinion 1 (Z=43)	•	•		
	1	3 900 323 000	Pinion 3 (Z=32)			•	•
12	1	3 900 320 000	Pinion 2 (Z=21)	•	•		
	1	3 900 323 000	Pinion 3 (Z=32)			•	•
13	1	3 900 321 000	Shaft adapter (Z=23)	•	•	•	•
14	1	3 900 322 000	Middle wheel (Z=19)	•	•	•	•
15	1	3 900 323 000	Pinion 3 (Z=32)	•	•	•	•
16	1	3 900 324 000	Chain wheel	•	•	•	•
18	1	3 900 303 000	Rod for traversing (l=160)	•	•	•	•
19	2	3 900 302 000	Rod for rotation (l=50)	•	•	•	•
20	1	3 002 000 072	Cross slotted screw	•	•	•	•
21	2	3 002 000 019	Nut, M4 , flat	•	•	•	•
22	1	3 900 326 000	Distance tube	•	•	•	•
23	4	3 002 000 073	Countersunk self-tapping screw	•	•	•	•
24	4	3 002 000 074	Screw 2.5x30	•	•	•	•
25	4	3 002 000 063	Screw 2.2x8	•	•	•	•
26	1	3 002 000 018	Self-tapping screw	•	•	•	•
27	2	3 233 215 000	Washer for rod diameter 5mm	•	•	•	•
28	1	3 900 327 000	Motor clip	•	•	•	•
29	1	3 001 798 122	Screw 2.2x6.5	•	•	•	•
30	1	3 002 000 024	Countersunk screw	•	•	•	•
31	1	3 233 200 001	End cap , non-operating side, left		•		•
	1	3 233 199 001	End cap , non-operating side ,right	•		•	
32	1	3 900 332 000	Plug	•	•	•	•