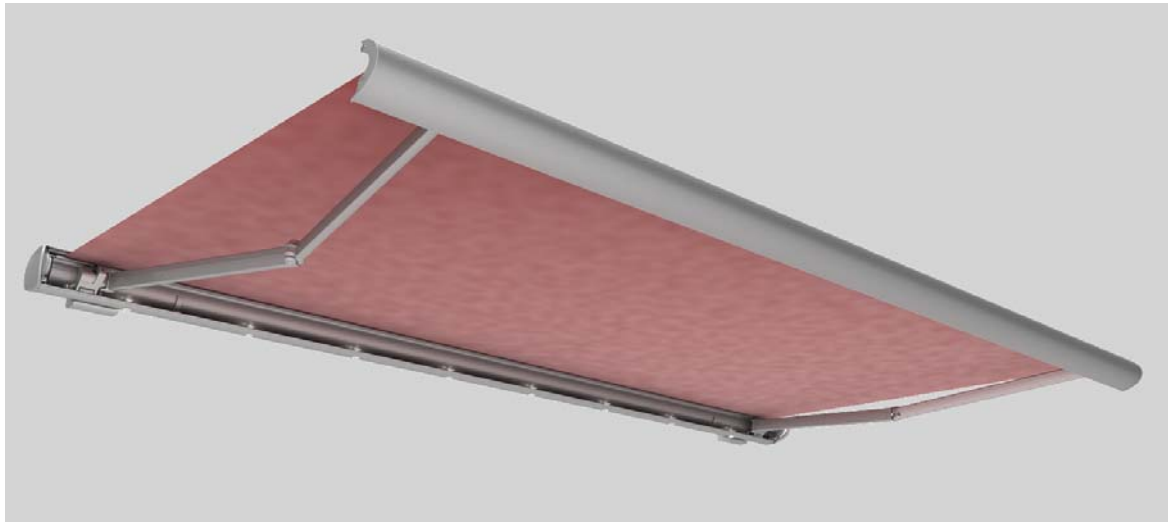


Opal Design II / Opal Design II LED

Folding arm awning with gear drive or electric drive

ENGLISH



Please read these instructions and observe their contents and warnings before commencing any assembly work. This information is critical to the installation and the proper use of the material.

Follow the assembly steps precisely and observe the tips, notes and recommendations.

Only trained personnel may put the units into operation.



116523

Contents

1	Notes on assembly instructions.....	4
1.1	Validity of these instructions.....	4
1.2	CE mark.....	4
1.3	Depiction.....	5
1.3.1	Warnings.....	5
1.3.2	Tips and recommendations.....	5
1.3.3	Illustrations.....	5
1.3.4	Instructions requiring action.....	5
1.3.5	Symbols used.....	5
2	Safety notes.....	6
2.1	Fundamental safety notes.....	6
2.2	Qualifications.....	6
2.2.1	Working with electricity.....	6
2.3	Transportation.....	7
2.4	Lifting with ropes.....	7
2.5	Mounting brackets.....	7
2.6	Fixing material.....	7
2.7	Ladders.....	7
2.8	Anti-fall guards.....	7
2.9	Electrical connection.....	8
2.10	Intended use.....	8
2.11	Unsupervised operation.....	8
2.12	Test run.....	8
2.13	Crushing and cutting zones.....	9
2.14	Handover.....	9
3	List of Tools.....	10
4	Product description.....	12
4.1	Schematic diagram.....	12
5	Assembly.....	14
5.1	Safety notes.....	14
5.2	Wall mounting.....	15
5.2.1	Wall mounting using a 150 mm wall bracket.....	15
5.3	Ceiling installation.....	19
5.4	Rafter bracket installation.....	22
5.4.1	Safety notes.....	22
5.4.2	Fitting the rafter bracket without a mounting plate.....	23
5.4.3	Fit the rafter bracket with mounting plate.....	25
5.5	Opal Design II coupling.....	27
5.5.1	Exploded Drawing - Opal Design II coupling.....	27
5.5.2	Installation of multi-field systems.....	28
5.6	Set the angle of inclination.....	31
5.7	Adjust the crescent-shaped cap.....	31
5.8	Setting the projection in an awning with gear drive.....	32

6	Volant Plus option.....	33
6.1	Safety notes	33
6.2	Exploded Drawing - Volant Plus.....	33
7	Circuit diagram Opal Design II	34
7.1	Safety notes on LED lamps.....	34
7.2	Technical details - LED lamps.....	34
7.2.1	Lighting device	34
7.2.2	LED lamp	34
7.3	Conventional Opal Design II	35
7.4	Conventional Opal Design II LED	35
7.5	Conventional Opal Design II LED Volant Plus	36
7.6	Opal Design II/ LED/ Volant Plus with BiConnect	37
7.7	LED lamp	37
7.7.1	Exploded drawing.....	37
7.8	Transformer box.....	38
7.8.1	Exploded drawing.....	38
8	Adjusting the arm position.....	39
8.1	Possible incorrect positions of the awning	39
9	Electrical connection	40
9.1	Safety notes	40
9.2	Setting the end positions.....	40
10	Exploded Drawing - Opal Design II.....	41
11	Test that the unit is working correctly.....	43
11.1	Safety notes	43
11.2	Checking the functions of the unit.....	43
12	Troubleshooting.....	44
13	Handover.....	44
14	Disassembly and disposal	45
15	Handover certificate.....	46
16	Declaration of performance.....	47
17	EC Declaration of Conformity	48
18	Other weinor products.....	49

1 Notes on assembly instructions

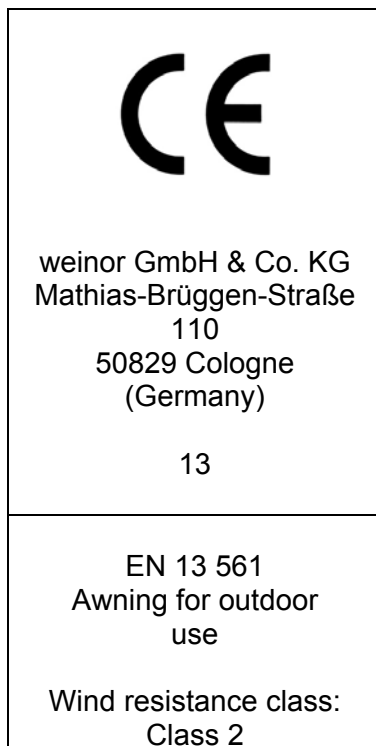
These instructions are geared towards trained fitters and require knowledge of installation techniques. Awnings may only be installed by specially qualified personnel with corresponding installation experience.

1.1 Validity of these instructions

The awnings have been approved for export and Germany.

1.2 CE mark



We, weinor GmbH & Co. KG, hereby expressly confirm that the awning complies with the fundamental requirements and other relevant stipulations of the EN standards.




1.3 Depiction

1.3.1 Warnings

The warnings differentiate between personal injury and damage to property. The signal word "Danger" is used for personal injury, and "Caution" for property damage.

 DANGER	Immediate danger to life and limb!
 CAUTION	Immediate danger to the product and environment!

1.3.2 Tips and recommendations

	Highlights useful tips and information that enable fast and correct assembly.
---	---

1.3.3 Illustrations



Notes on item numbers can be found in the text in parentheses, e.g. **(1)**.

1.3.4 Instructions requiring action

Instructions requiring action are written in bold print. If the instruction requiring action consists of several individual steps, these have been numbered in the order in which they are to be carried out, e.g. :

1.	Fit wall brackets
	1. Measure the distance between the stops. 2. Align the brackets exactly using suitable tools/aids.

1.3.5 Symbols used

Symbol	Explanation	Remarks
	Incorrect	Change required settings
	Correct	Leave settings unchanged.

2 Safety notes

DANGER

Personal injury

Risk of personal injury due to improperly installed awning.

- ▶ **Please read and observe the safety notes contained in this section.**

CAUTION

Product and property damage

Risk of damage to the product and property due to improperly installed awning.

- ▶ **Please read and observe the safety notes contained in this section.**

2.1 Fundamental safety notes

- The assembly and operating instructions must be read and observed.
- Observe the corresponding accident prevention regulations.
- Ensure when installing the awning that all existing electrical connections are disconnected.
- Cordon off a large space around the installation site.
- Check that all scaffolding and building facilities are duly safe and secure.
- Observe the stipulations relating to dowels and fixing materials.
- Only work with fully intact and appropriate tools.
- Keep plastic sheeting, packaging material and small parts away from children – risk of suffocation!

2.2 Qualifications

The assembly instructions are aimed at qualified technicians who have knowledge of and are experienced in the following areas:

- Safety at work, operating safety and accident prevention regulations
- Use of ladders and scaffolding
- Handling and transporting long, heavy components
- Handling and transporting glass panes
- Handling tools and machines
- Fitting the fixing materials
- Assessment of building fabric
- Start-up and operation of the product.

If one of these qualifications is lacking, a qualified assembly firm must be brought in.

2.2.1 Working with electricity

In accordance with VDE 100 safety regulations, electrical work may only be carried out by an authorised electrician. The installation instructions accompanying the supplied electrical equipment must be observed.

2.3 Transportation

The maximum permissible axle loads and gross vehicle weight of the goods vehicles must not be exceeded. Loading a vehicle can alter its handling characteristics.

The transported goods must be fastened properly and safely. Keep packaging dry. Softened packaging can come loose and cause accidents. Packaging which has been opened for goods inward purposes must be sealed again properly for further transport.

When unloaded, the awning must be carried to the place of installation the right way round so it does not have to be turned round again in a confined space. The instructions on the packaging about which way up the awning should be placed must be noted.

2.4 Lifting with ropes

If the awning needs to be raised to a higher level using ropes, the awning must be:

- removed from the packaging;
- attached to the ropes so that it cannot slide out;
- lifted horizontally and evenly.

The same applies when disassembling the awning.

2.5 Mounting brackets

Before beginning the installation work, check

- that the mounting brackets supplied are of the same type and of the same quantity as ordered,
- that the information provided in the order about the installation surface tallies with the actual installation surface on site.

If any deviations should be found whatsoever which compromise the safety of the installation, the installation work must not be carried out.

2.6 Fixing material

The awning complies with the requirements of the wind resistance class shown on the CE conformity marking. When fitted, it only complies with these requirements provided that

- the awning is fitted with the type and number of brackets recommended by the manufacturer, and
- the awning is fitted taking into account the extraction forces recommended by the manufacturer, and
- the manufacturer's recommendations for the dowels to be used have been complied with.

2.7 Ladders

Do not lean ladders against the awning or fix them to the awning. Ladders must be on a firm base and provide adequate support. Only use ladders with adequate load-bearing capacity.

2.8 Anti-fall guards

Workers run the risk of falling when working at elevated heights. Suitable anti-fall guards must be used.

2.9 Electrical connection

The awning may only be connected to an electricity supply if the specifications provided on the tag attached to the awning and/or the specifications provided in the supplied assembly instructions tally with the power source. At the very least, the tag and/or specifications must specify the voltage, frequency and output values.

The installation instructions accompanying the supplied electrical components must be observed. A permanent electrical connection may only be made to power grids fitted with an all-pole disconnecter with a minimum 3 mm wide contact gap.

2.10 Intended use

The awning is a sun protection unit and may only be used for sun protection. Failure to use the product as intended may result in severe danger.

Alterations such as attaching items, or conversions not envisaged by weinor may only be carried out with weinor's written consent.

Additional loads on the awning caused by hanging objects from it or by anchoring ropes may result in damage or cause the awning to fall and are therefore not permissible.

2.11 Unsupervised operation

When working in the range of the awning's movement, the automatic controls must be switched off. There is a danger of trapping or the awning falling down.

Measures must also be taken to ensure that the awning cannot unintentionally be operated. These involve cutting off the power source, e.g. by disconnecting the fuses or removing the connector coupling from the drive.

If awnings are operated by several users, a priority locking device must be installed (controlled interruption of the power supply from outside), making it impossible to open or retract the awning at all.

2.12 Test run

When running the awning for the first time, the working range of the awning and the area below it must be kept clear. A visual inspection of the fixings and brackets must be performed after the awning has been operated for the first time.

When carrying out test runs, never use automatic controls or switches if the awning is not in the operator's line of vision (danger of awning starting unintentionally). We recommend that you connect a test cable to the motor input.

The installation and setting instructions supplied by the manufacturer of the drive, switches and controls must be observed.

2.13 Crushing and cutting zones

Beware of crushing and cutting zones between e.g. the drop profile and the housing, between the folding arms, and between profiles which come into contact with each other. Beware of clothing and/or limbs getting caught in the system and pulled in!

If the awning is installed at a height of less than 2.5 metres above areas accessed by people, the awning may only be operated using a push button with all moving parts in sight. Electrical controls, wireless controls with latch switches, latch switches, etc. are not permissible here.

The push button must be fitted in the line of sight of the drop profile, but far enough removed from the moving parts, at a height of 1.5 metres (national regulations relating to disabled people must be observed).

2.14 Handover

All operating instructions as well as the manufacturer's assembly and setting instructions for drives, switches and controls must be handed to the user who must be instructed in the operation of the unit. Detailed instruction on the safe and proper operation of the awning must be given. If this is not adhered to and the awning is operated incorrectly, damage to the awning or accidents could result.

The instructions must be kept by the customer and passed on to the new owner if ownership of the awning passes to a third party.

After noting the on-site structural conditions and completing assembly, the installation firm is to inform the user whether the wind resistance class given by the manufacturer was achieved when the awning was assembled. If not, the installation firm must record the wind resistance class actually achieved.

Automatic controls must be set to this level.

The customer must confirm to the fitter in writing that the awning is the right model and has been installed correctly, indicating the assembly time, and that final acceptance of the awning has taken place during which the safety issues were discussed (see Handover section).

3 List of Tools

Good tools are the key to ensuring productivity and making certain that the quality of the assembly work is good. The following is a list of the minimum tools that we recommend you have available for installing your weinor awning under "standard" building conditions

Tool	Size	Use
Tools/machines		
Allen key	SW 2.5	To open the transformer box
	SW 3	To mount the central adapter (2-field system)
	SW 5	To assembly the central plates (2-field system)
	SW 6	To set the height adjustment for the ceiling To mount the clamping profiles
Open-end or ring spanner	SW 7	To fasten the adjusting screw to the crescent-shaped cap
	SW 10	To assemble the central plates and the adapter for the coupling (2-field system)
	SW 13	To align the fabric shaft at the coupling point (2-field system) To mount the slotted cover (2-field system)
	SW 17	To install LED lights
	SW 19	To screw the wall bracket to the mounting plate To connect the retaining plate to the ceiling angle
Socket spanner (spark plug spanner)	17	To adjust the inclination
Phillips screwdriver	2	To fit the jockey cover in the coupling profile (2-field system) To mount the wall bracket cover caps
Power drill, bits		To drill screw holes
Cable reel	as required	
Ladder	as required	

Opal Design II / Opal Design II LED**Instructions for Assembly**

Measuring and testing tools		
Tape measure		To measure the bracket position To measure the installation height and the width of the unit
Spirit level, rope or mason's cord		To align the unit
Installation tools		
Touch-up pencils ¹⁾		For touch-up work
Pencils		For tracing / marking
Test run cable		To set/adjust the drive, for test runs
Protective clothing		
Safety shoes		To protect against falling parts
Protective gloves		To protect against sharp edges on profiles and components

¹⁾ Supplied by weinor.

4 Product description

4.1 Schematic diagram

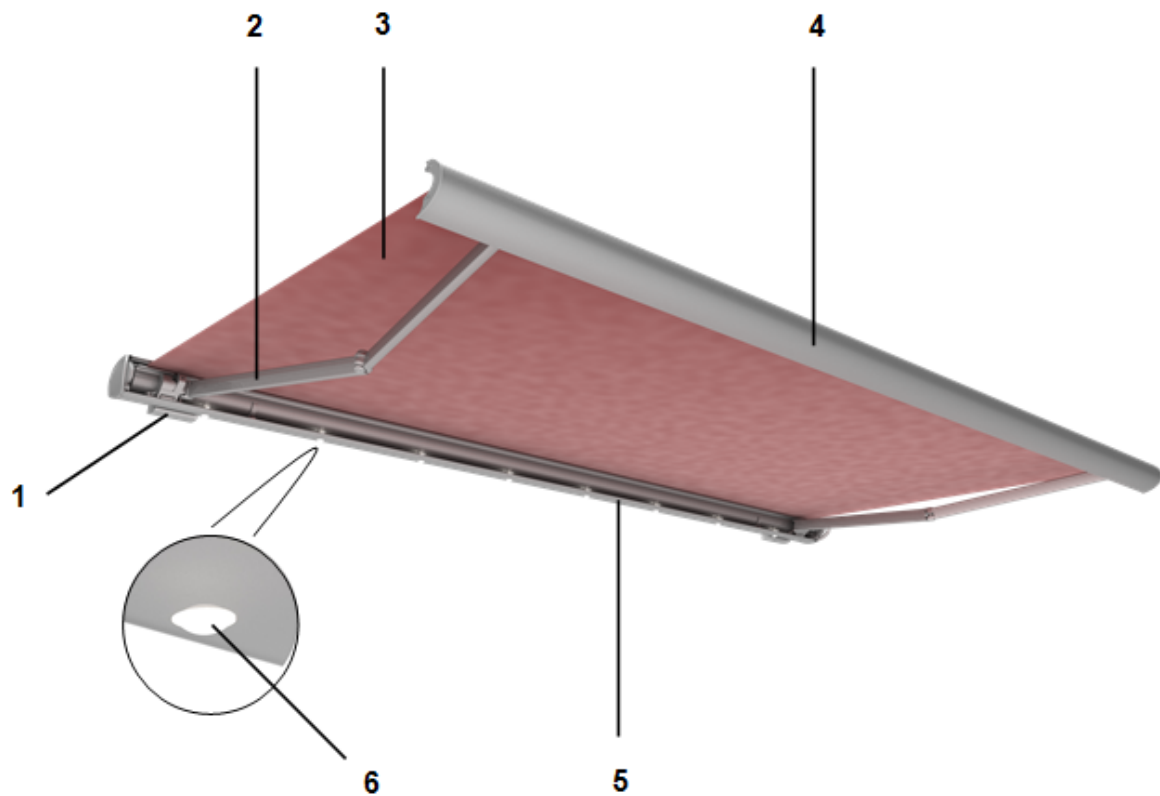


Figure 1: Schematic diagram of Opal Design II / Opal Design II LED

1	Wall bracket	4	Drop profile
2	Longlife arm	5	Box profile
3	Fabric	6	LED spotlight

Opal Design II / Opal Design II LED

Instructions for Assembly

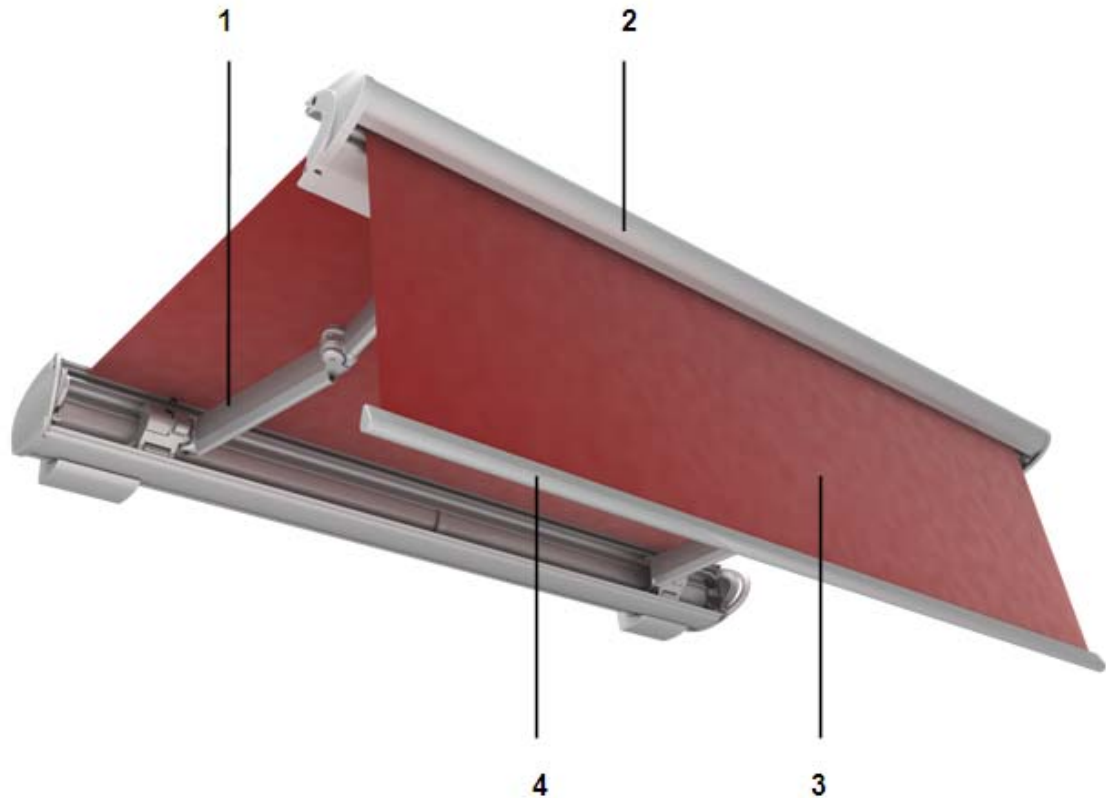


Figure 2: Schematic diagram of Opal Design II Volant Plus / Opal Design II LED Volant Plus

1	Longlife arm Volant Plus	3	Volant Plus fabric
2	Volant Plus drop profile	4	Volant Plus drop rod

5 Assembly

5.1 Safety notes

DANGER

Beware of missing or incorrect brackets as well as incorrect assessment of installation surface.

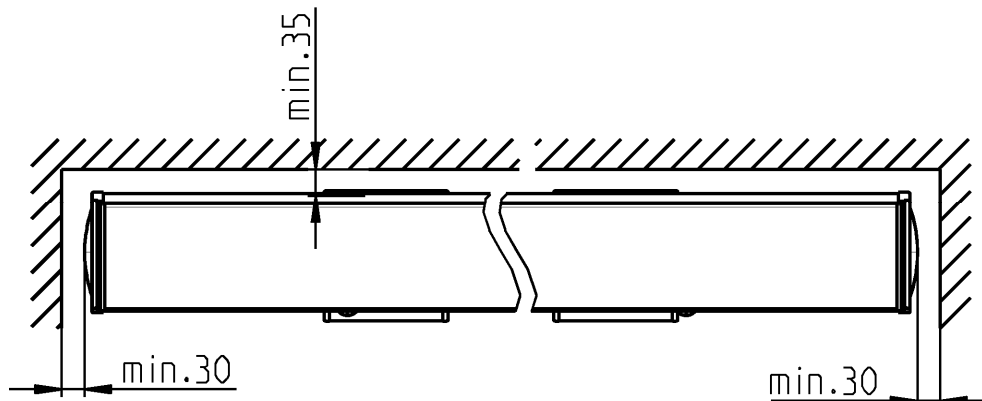
Check before beginning the assembly work

- that the mounting brackets supplied are of the same type and of the same quantity as ordered,
- that the information provided in the order about the installation surface tallies with the actual installation surface on site.

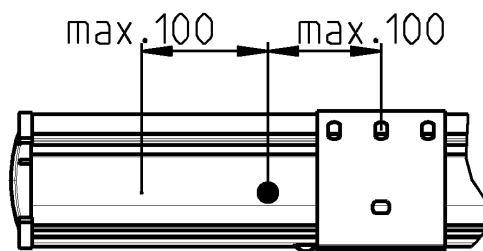
► **If any deviations are found, which pose a safety risk, do not carry out the assembly work.**



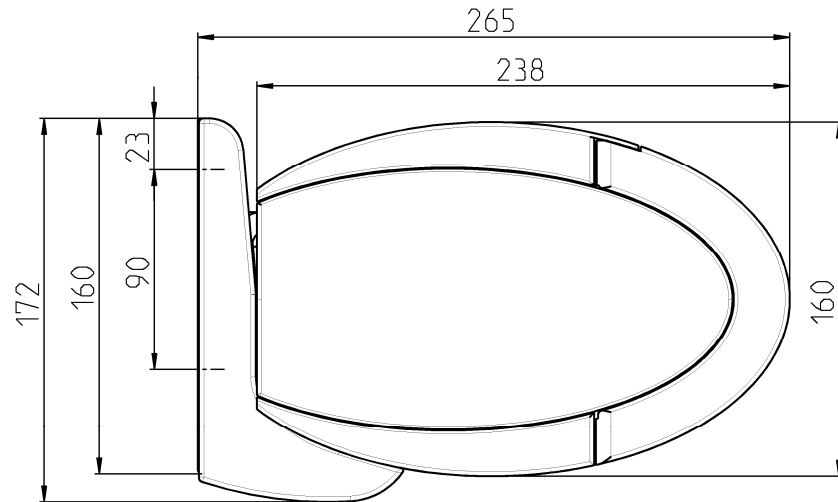
A space of at least 30 mm from the side of the wall is needed in order to fit the cover caps.



The brackets must be located where the arm brackets are located (marking points on the rear of the awning)!
A maximum deviation from the centre of the arm bracket to the centre of the bracket ± 100 mm is possible!



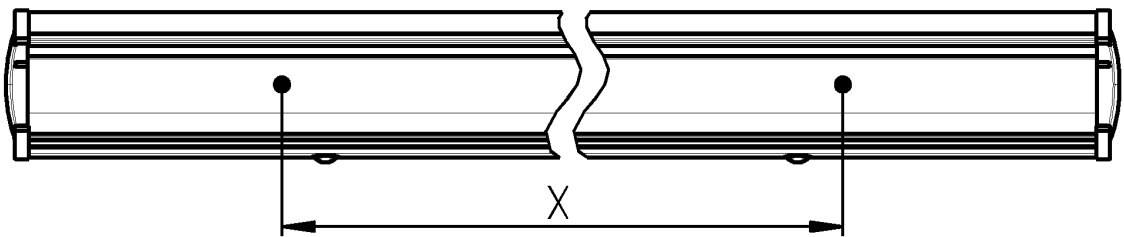
5.2 Wall mounting



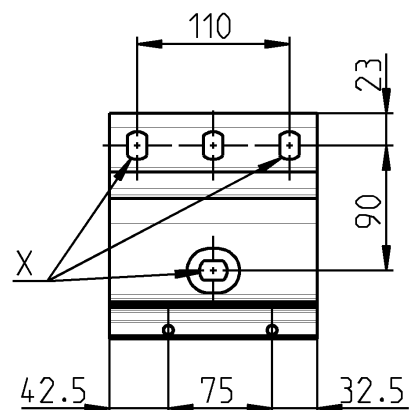
5.2.1 Wall mounting using a 150 mm wall bracket

1. Fit the brackets

1. Measure the distance between the marking points on the back of the awning cassette.
2. The measured distance (**X**) is equivalent to the centred spacing of the brackets. Bracket deviation of ± 100 mm permissible; align brackets exactly using suitable tools/aids, (e.g. mason's cord) and a spirit level.

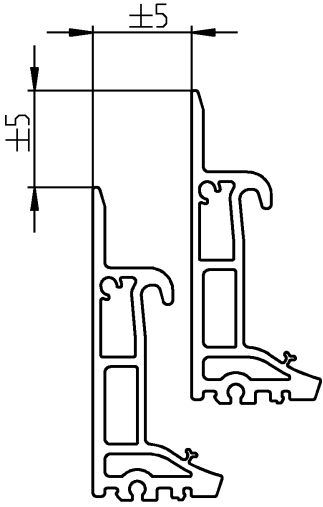
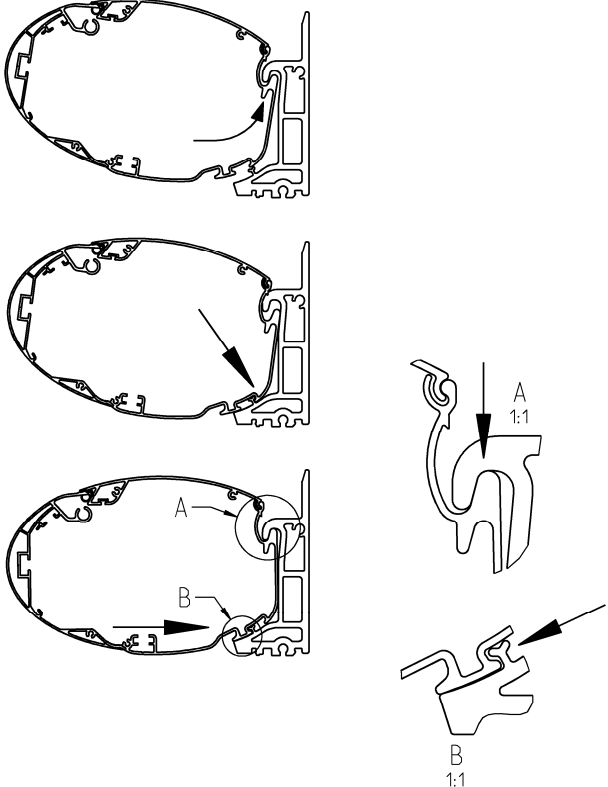


3. Mark drill holes (**X**), drill holes and mount brackets on the wall. Affix each bracket using 3 screws.




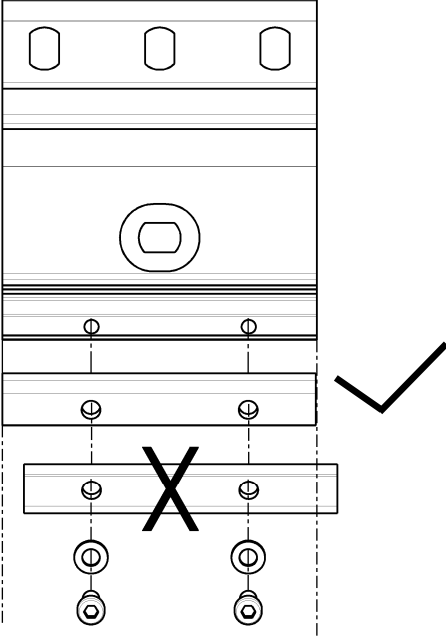
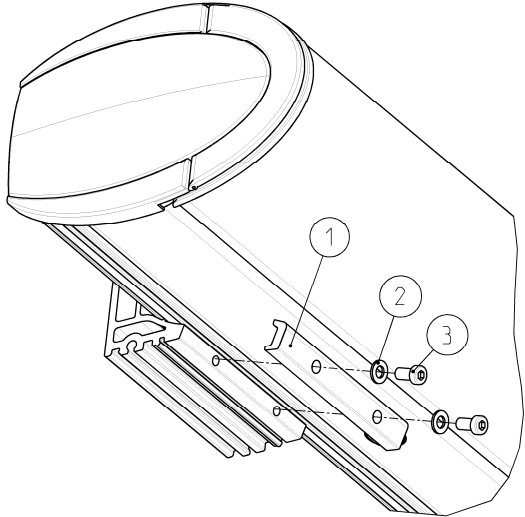
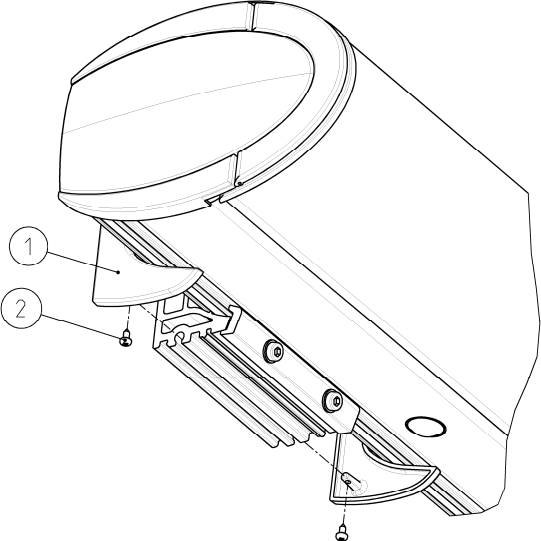
Opal Design II / Opal Design II LED

Instructions for Assembly

<p>2.</p>	<p>Check bracket alignment</p> <ol style="list-style-type: none"> 1. Check that the brackets are fitted flush 2. Check that the brackets are aligned to the right height and depth; max. permissible deviation (e.g. due to ripples in the wall) ± 5 mm. Shim underneath if necessary. 	
<p>3.</p>	<p>Attach the awning</p> <ol style="list-style-type: none"> 1. Screw the awning into the bracket stud; the awning must rest on the lower nose of the wall bracket. 	

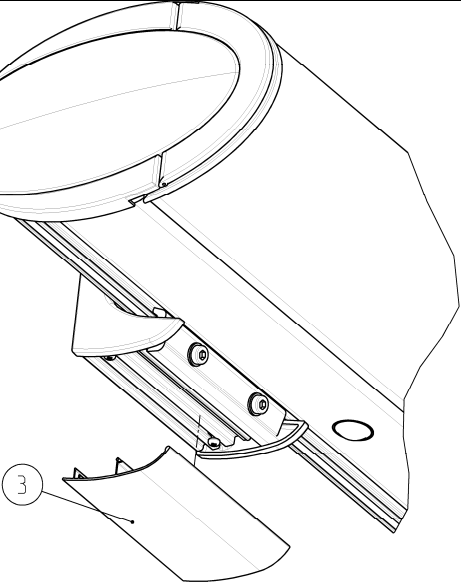
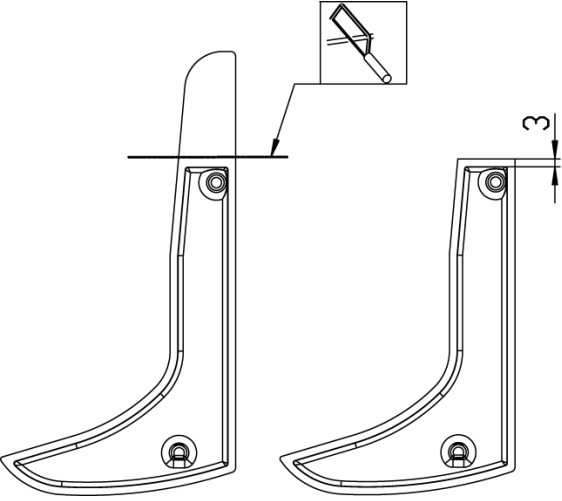
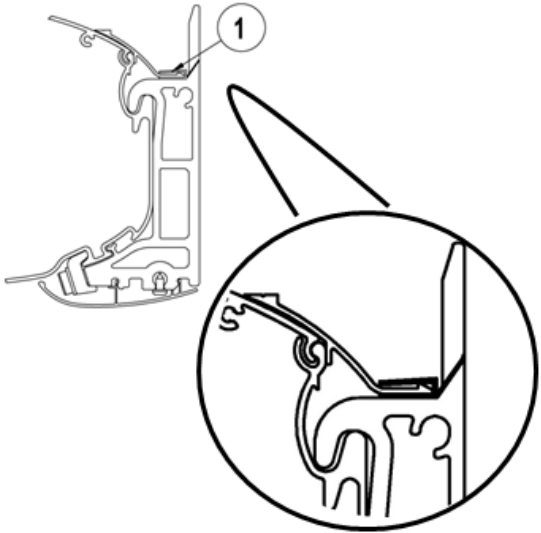
Opal Design II / Opal Design II LED

Instructions for Assembly

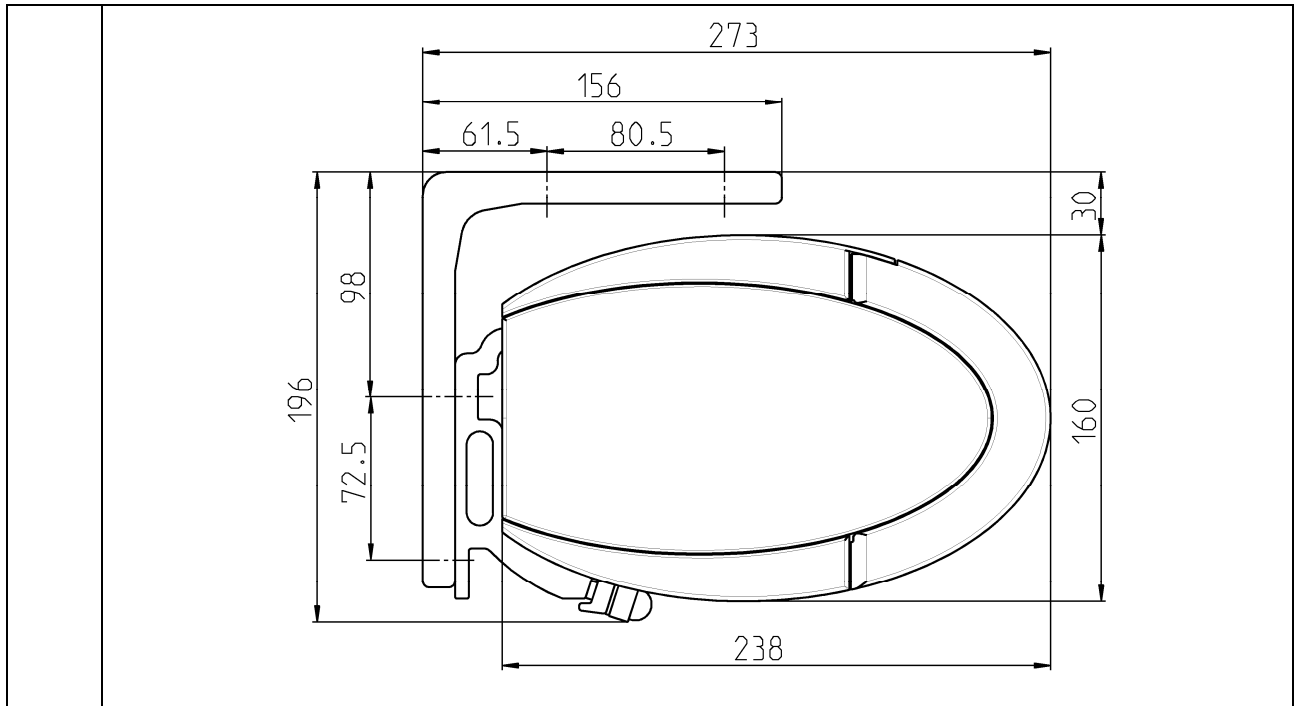
	<p>Make sure that the clamp profiles are in the correct position! The clamp profile must be flush to the outside edges of the wall bracket!</p>	
<p>4.</p>	<p>Attach clamp profiles to the wall bracket</p> <p>2. Using the Allen screws (3) and shims (2), affix the clamp profile (1) to the wall bracket.</p>	
<p>5.</p>	<p>Mount the wall bracket cover caps and top profile</p> <p>1. Mount the wall bracket cover caps (1) on the correct side with the metal screws (2) to the wall bracket.</p> <p>2. Mount the top profile wall bracket (3) to the wall bracket.</p>	

Opal Design II / Opal Design II LED

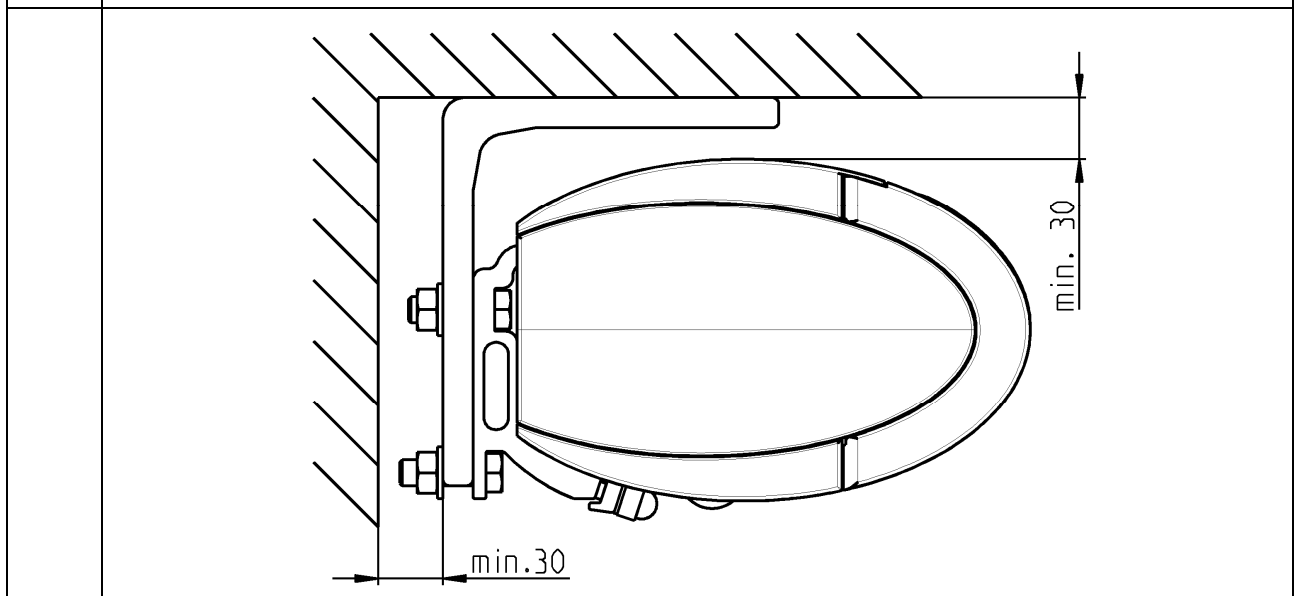
Instructions for Assembly

		
<p>6.</p>	<p>Mount a top profile (optional)</p> <ol style="list-style-type: none"> 1. Remove wall bracket cover caps and trim to size. 2. Re-attach wall bracket cover caps. 	
	<ol style="list-style-type: none"> 3. Cut a notch into the (1) bracket sealing lip. 4. Fit the sealing lip to the top profile. 5. Glue the top profile to the top of the cassette using mirror adhesive tape. 	

5.3 Ceiling installation



A space of at least 30 mm from the back of the wall is needed to be able to fit the ceiling angle caps without difficulty at a later stage.

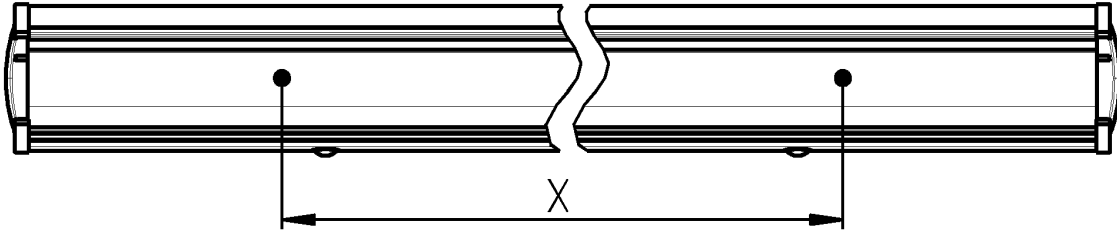
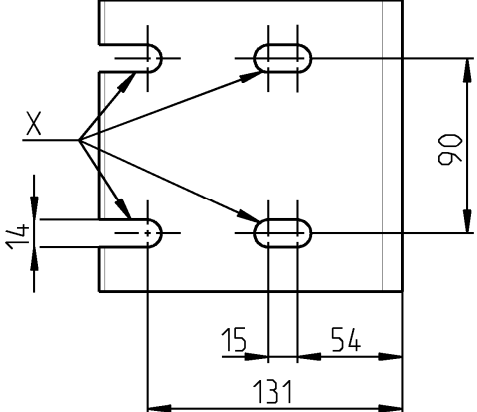
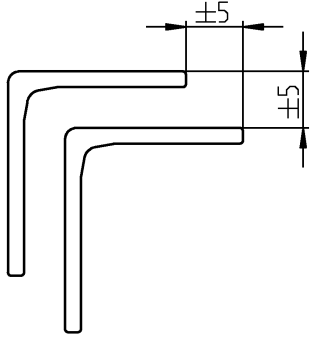
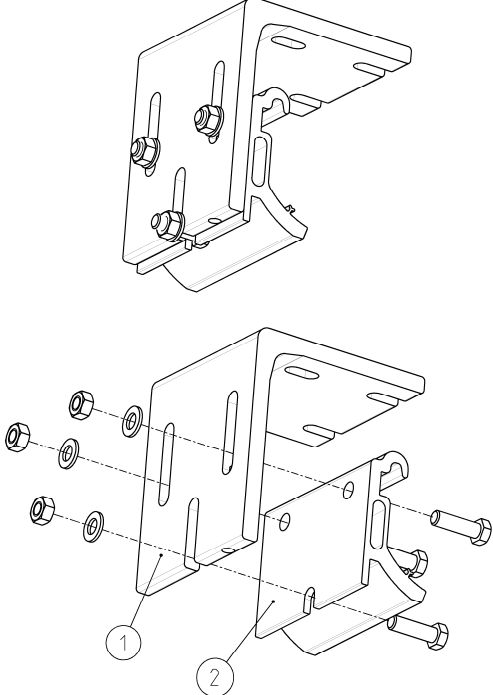


1. Fit ceiling angle

1. Measure the distance between the marking points on the back of the awning cassette.
2. The measured distance (**X**) is equivalent to the centred spacing of the brackets. Bracket deviation of ± 100 mm permissible; align brackets exactly using suitable tools/aids, (e.g. mason's cord) and a spirit level.

Opal Design II / Opal Design II LED

Instructions for Assembly

		
<p>3. Mark where holes are to be drilled (X) (first the front 2, then the back 2), drill the holes and fit the ceiling angle to the ceiling.</p>		
<p>2.</p>	<p>Check the bracket alignment</p> <p>1. Check the ceiling angles are aligned flush, and adjust if necessary.</p>	
<p>3.</p>	<p>Fit the retaining plate</p> <p>1. Gently screw the retaining plate (2) to the ceiling angle (1) with the screws.</p>	

Opal Design II / Opal Design II LED

Instructions for Assembly

<p>4.</p>	<p>Fit awning</p>	
<p>5.</p>	<p>Screw the clamping profile onto the retaining plate</p> <ol style="list-style-type: none"> 1. Mount the clamping profile (1) using Allen screws (3) and washers (2). 2. Mount the cover caps (4). 	
<p>6.</p>	<p>Screw down the retaining plate</p> <ol style="list-style-type: none"> 1. Turn the grub screws clockwise as far as they will go until they are fully tight on the awning. 2. Fully tighten the M12 screws. 3. Insert the bottom M12 screw and fully tighten. 	

5.4 Rafter bracket installation

5.4.1 Safety notes

CAUTION

Damage to the product

Beware of non-supporting wooden installation surfaces

- ▶ **Before beginning the installation work, check that the wooden installation surface can support the structure. This surface may vary in strength, type of wood, grain, age of wood, etc.**
- ▶ **Check that the C2 plate dowels supplied are suitable for use at the site of installation:**
 - **C24 coniferous wood**
 - **The duration of load effect is classified as "short"**
 - **The angle between the direction of force and the direction of the wood grain is 0°**
 - **Recommended minimum wood thickness $t_{re,q} = 70$ mm**

The rafters used to install the awning must not be interrupted, e.g. by the use of roof windows, dormer windows, etc.

In the event that the installation surfaces or fundamental conditions deviate from what is required, the fixings must be constructed in accordance with the specifications of DIN 1052: Design, Calculation and Dimensioning of Wood Structures, or a lower wind resistance class must be specified for the awning as appropriate for the installation.

- ▶ **Do not install on end grain wood.**
- ▶ **Ensure that the fixings are amply protected against corrosion.**



The spacing showing in Figure 3, Minimum dimensions on the rafter bracket, also apply when installing using the mounting plate for the rafter bracket.

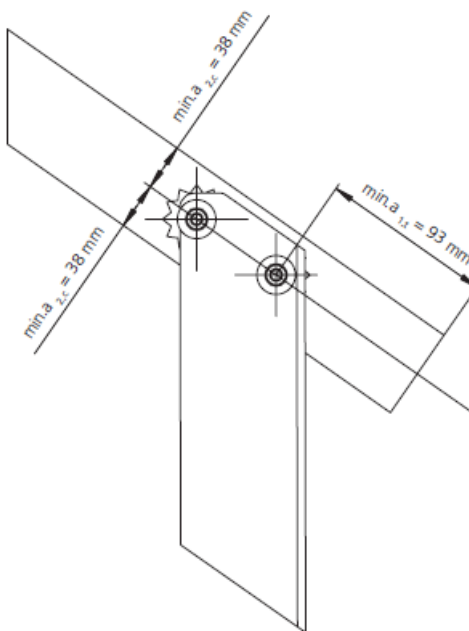
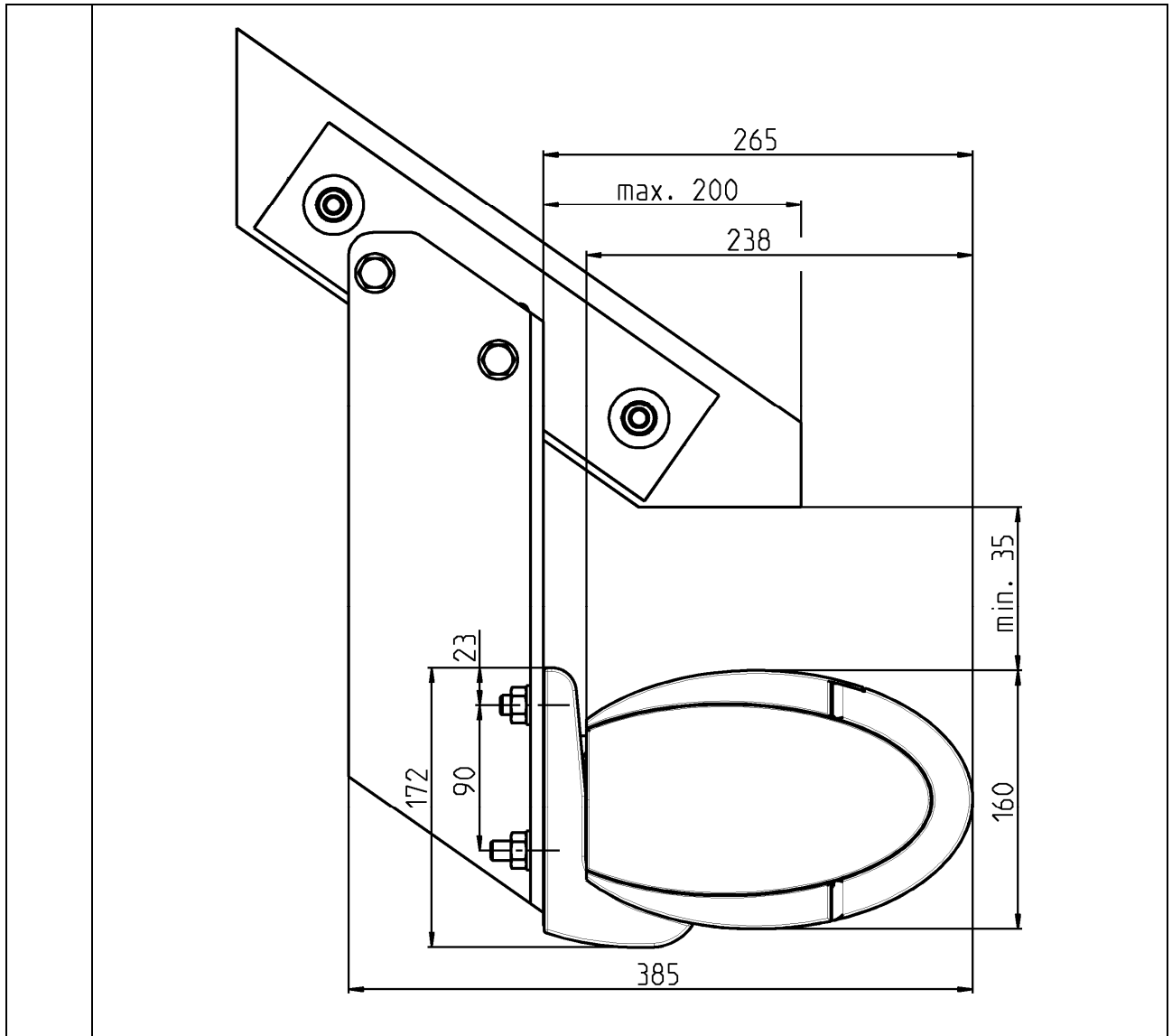


Fig. 3: Minimum dimensions on the rafter bracket

Opal Design II / Opal Design II LED

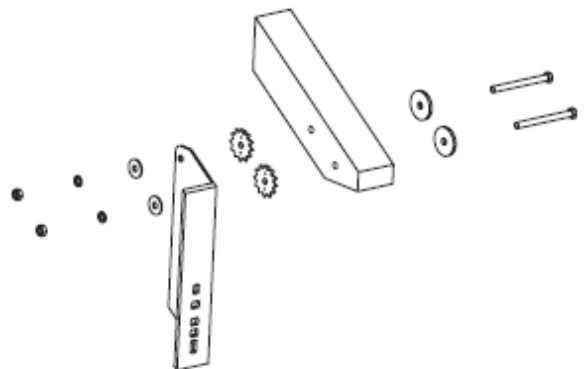
Instructions for Assembly



5.4.2 Fitting the rafter bracket without a mounting plate

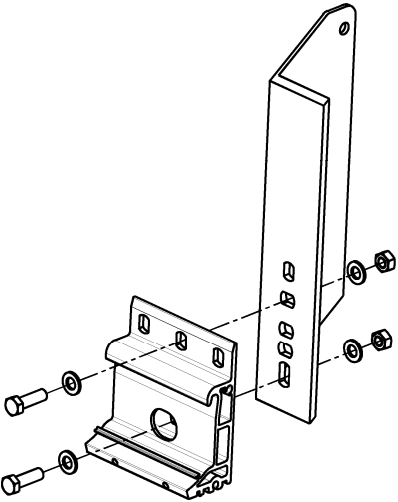
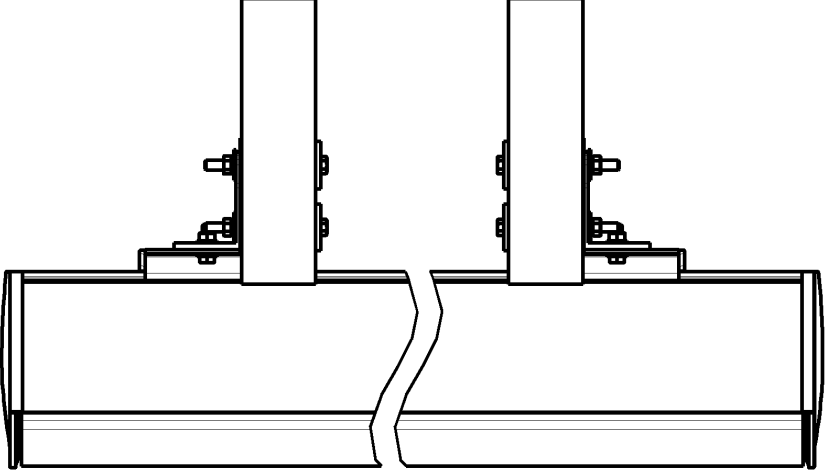
1. Fit the rafter bracket

1. Align the rafter bracket to the rafter and mark where the two holes should be drilled.
2. Make sure the required minimum distance from the edge of the rafter is kept. Drill the two $\leq \text{Ø}13$ mm through holes.
3. Push in the C2 plate dowels together with the screws and the shims. As you do this, ensure that you do not bend the teeth on the plate dowels.
4. Fit the rafter bracket to the rafter.



Opal Design II / Opal Design II LED

Instructions for Assembly

<p>2.</p>	<p>Mount the wall bracket</p> <p>1. Mount the wall bracket to the rafter bracket</p>	
	<p>2. Align the distance according to width of awning</p>	
		
<p>3.</p>	<p>Attach the awning</p>	
<p>4.</p>	<p>Attach clamp profiles to the wall bracket</p>	

5.4.3 Fit the rafter bracket with mounting plate

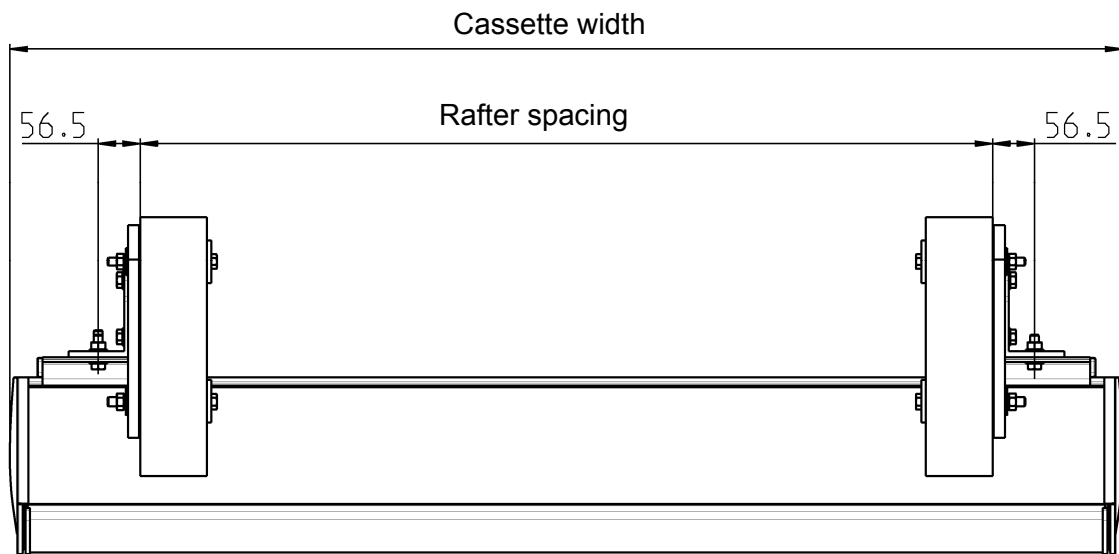


We recommend using the mounting plate to fit the rafter brackets as it provides for a better shear force transfer.

<p>1.</p>	<p>Fit the rafter bracket</p> <ol style="list-style-type: none"> 1. Screw the rafter bracket to the mounting plate taking the roof pitch into account. 	
	<ol style="list-style-type: none"> 2. Align the mounting plate to the rafter and mark where the two holes should be drilled. Make sure the required minimum distance from the edge of the rafter is kept. Drill the two $\leq \text{Ø}13$ mm through holes. 3. Push in the C2 plate dowels together with the screws and the shims. As you do this, ensure that you do not bend the teeth on the plate dowels. 4. Fit the rafter bracket with mounting plate to the rafter. 	
<p>2.</p>	<p>Mount the wall bracket</p> <ol style="list-style-type: none"> 1. Mount the wall bracket to the rafter bracket 2. Align the distance according to width of awning 	
<p>3.</p>	<p>Attach the awning</p>	
<p>4.</p>	<p>Attach clamp profiles to the wall bracket</p>	

Opal Design II / Opal Design II LED**Instructions for Assembly**

A rafter assembly with mounting plate is recommended. The bracket position is dependent on the cross sections and dimensions of the awning.



5.5 Opal Design II coupling

5.5.1 Exploded Drawing - Opal Design II coupling

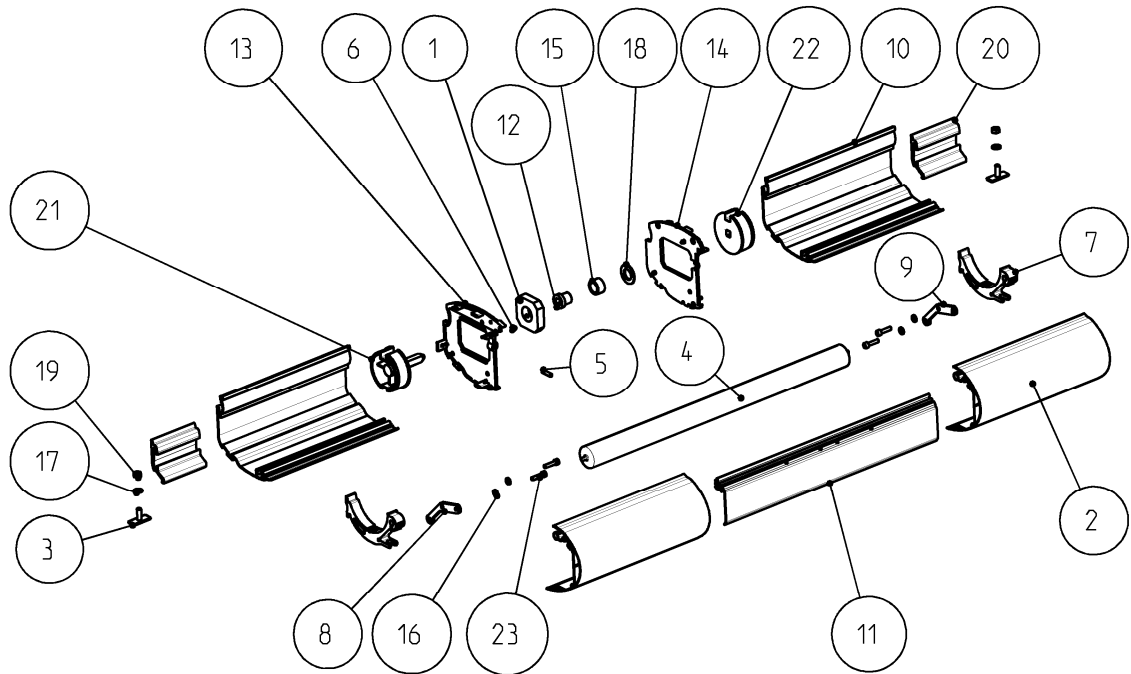
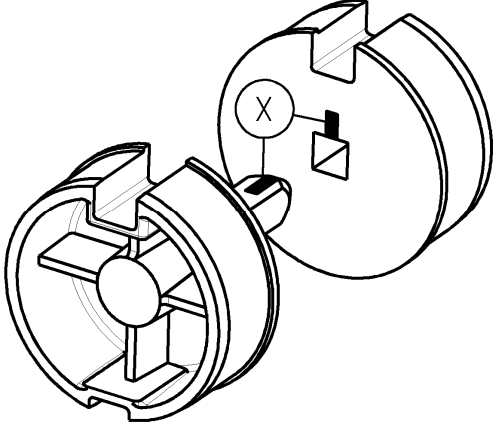
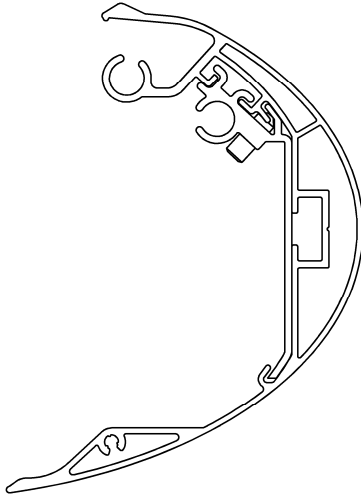


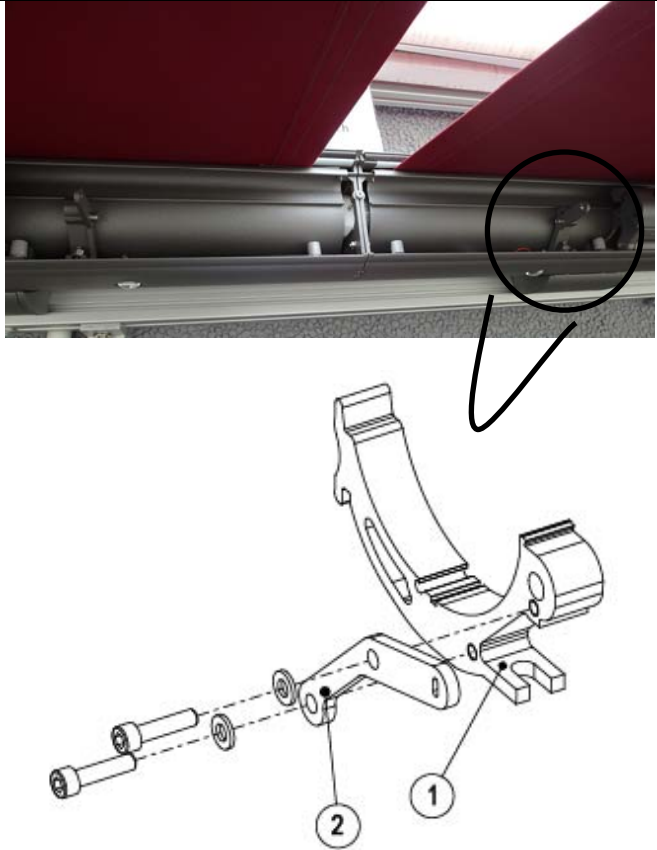

Figure 8: Exploded drawing - Opal Design II coupling

1	Adapter for coupling	13	Centre plate left
2	Drop profile	14	Centre plate right
3	Clamping slider	15	Needle bearing coupling
4	Spring shaft	16	Washer DIN 125A-6.4-A2
5	Grub screw DIN913-M6x25	17	Washer DIN 125A-8.4-A2
6	Grub screw DIN914-M6x16	18	Washer DIN 125B-21-A2
7	Jockey cover holder	19	Hexagonal nut DIN 934-M8
8	Holding plate left	20	Support profile
9	Holding plate right	21	Roller tube insert D78 12x12 external square
10	Housing floor profile	22	Roller tube insert D78 12x12 inner square
11	Coupling profile	23	Hex. socket head cap screw DIN912-M6x25
12	Brass bearing bush		

5.5.2 Installation of multi-field systems	
1.	Fit wall brackets
2.	<p>Attach the awning</p> <ol style="list-style-type: none"> 1. Mount the system with motor onto the wall brackets and align. 2. Screw the clamping profiles tightly together. 3. Mount the second system part onto the brackets with a lateral distance of 50 mm from the first system part.
3.	<p>Couple the system parts</p> <ol style="list-style-type: none"> 1. Insert the adapter for coupling (1) with brass bush (12) into the central plate of the system part without motor. 2. Lubricate the \varnothing 21 mm washer (18) and push into the brass bush. 3. Turn the external square (21) of the system part without motor. Wind the fabric tightly around the roller tube. 4. Align the outer and inner squares. The roller tube groove and marking (X) on both system parts must match. 
	<ol style="list-style-type: none"> 5. Slide the system part without motor into the other part. The external square slides into the roller tube insert of the system part with motor 6. Push the coupling adapter all the way to the back and secure by means of the adjusting screw. 7. Screw the clamping profiles on the second system part to the brackets. 8. Open the belts on the jointed arms on the system part without motor. 9. Extend the system approx. 200 mm. 10. Screw the central plates together. 11. Extend the system completely. 12. Push the coupling profile into the drop profiles and centre. 13. Join the drop profiles and screw the coupling profile in place. 

Opal Design II / Opal Design II LED

Instructions for Assembly

<p>4.</p>	<p>Mount the jockey cover</p> <ol style="list-style-type: none"> 1. Extend the drop profile until it is approx. 1 metre open. 2. Attach the bracket plate (2) to the pre-assembled jockey cover holder (1) from the inside. 	
	<ol style="list-style-type: none"> 3. Prepare the barrel arbour and fabric: To do this, remove the protective strip from the double-sided sticky tape and affix the fabric to the middle of the barrel arbour. 	



Make sure that the sticky tape does not hang over the sides. Remove any overhanging sticky tape.


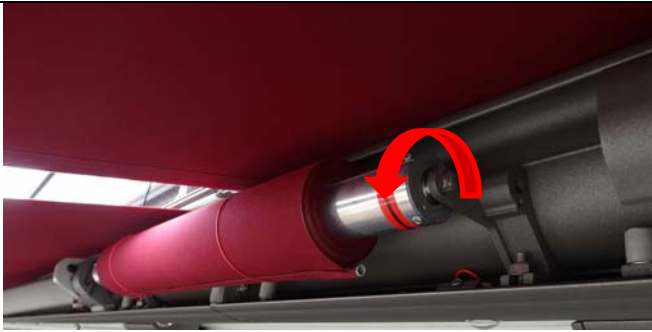

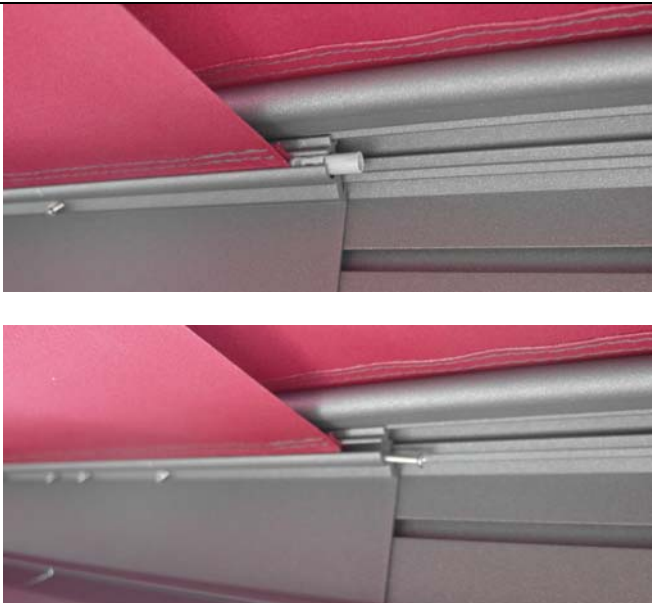
	<ol style="list-style-type: none"> 4. Wind the fabric around the barrel arbour. 	
--	--	--



The fabric must always be centred and straight when wound around the shaft. If necessary, use rubber seals to prevent the fabric from rolling off. These will help to keep the right tension.

Opal Design II / Opal Design II LED

Instructions for Assembly

	<ol style="list-style-type: none"> 5. Slide the jockey cover holder into position. Now affix the right-hand side to the bottom profile. 6. Clamp the barrel arbour with jockey cover between the jockey cover holder so that it is centred. To align, loosen the the clamping screws on the bottom section of the cassette if necessary. 	
	<ol style="list-style-type: none"> 7. The barrel arbour and fabric must be pretensioned. This will require turning the barrel arbour and fabric 8 times around its own axis in an anti-clockwise direction (see red sticker on barrel arbour). 	
	<ol style="list-style-type: none"> 8. Pull the fabric by the fabric rail as far as the drop profile. 9. Insert the fabric rail and cord edge from the side into the slot on the coupling profile. 	
	<ol style="list-style-type: none"> 10. Then open and retract the awning once. As you do this, check how the jockey cover winds the fabric and slightly adjust the fabric on the coupling profile if necessary. 11. Once the ideal winding performance has been found, affix the jockey cover to the coupling profile using dowels and screws. 	

Opal Design II / Opal Design II LED

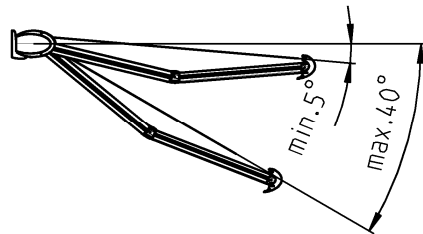
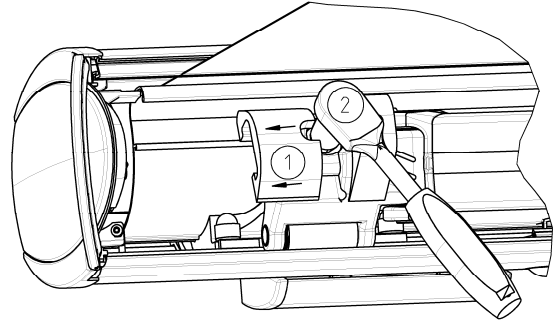
Instructions for Assembly

5.6 Set the angle of inclination



The permissible adjustment range is 5° to 40°; for the Volant Plus option, it is 10° to 20°. To adjust the angle of inclination, open the awning and slightly lift the arm in question to reduce the strain here.

1. Extend the awning completely.
2. Push the tilting part slider (1) to the side.
3. Lift the folding arm
4. Adjust the (2) M10 nut using an SW17 socket wrench
 - Turn clockwise to reduce the angle
 - Turn anti-clockwise to increase the angle
5. Set all arms to the same position.



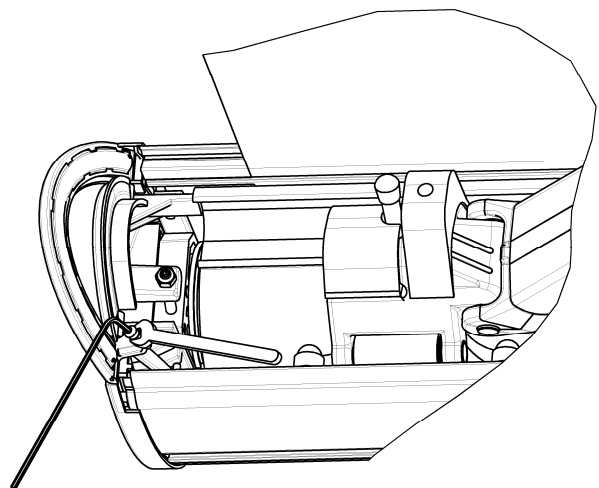
5.7 Adjust the crescent-shaped cap



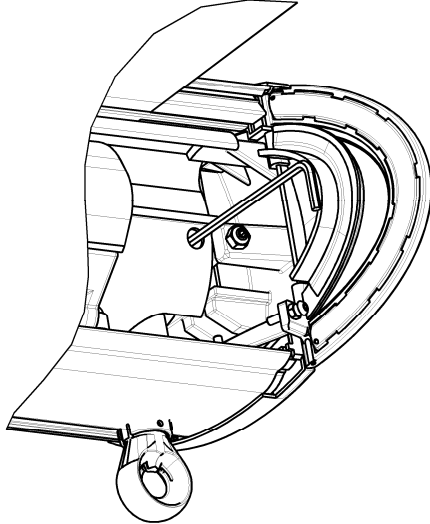
The crescent-shaped cap presses against the drop profile cap when the cassette is closed. On gear-driven systems, if the crescent-shaped cap does not close completely, this is also an indication that the Opal Design II is not entirely retracted.

1. Readjusting the crescent-shaped cap

1. Extend the awning until you can easily access the adjusting screw and lock nut.
2. Release the lock nut with an SW7 open-end spanner
3. Using an SW Allen key, loosen the adjusting screw somewhat (in an anti-clockwise direction).
4. Retract the system and check whether the crescent-shaped cap locks completely (otherwise readjust).
5. Extend the awning once again and secure the adjusting screw with a lock nut.
6. Retract the system once again to check everything is running properly.



5.8 Setting the projection in an awning with gear drive

1.	Changing the projection setting <ol style="list-style-type: none"> 1. Extend the awning until the sliding clutch engages (clearly audible "click"). 2. Then retract the awning approx. 1 to 2 cm. 	
	<ol style="list-style-type: none"> 3. Loosen the locking screw using an SW 4 Allen key by turning it 3 times. 4. Crank the awning until the desired projection is reached. 5. Tighten the locking screw slightly. 6. Then retract the awning approx. 1 to 2 cm and tighten the locking screw. 	
2.	Checking the setting <ol style="list-style-type: none"> 1. Retract the awning approx. 50 cm and then extend it until the sliding clutch engages (clearly audible "click"). 	



The gear teeth can be on top of each other. The gear teeth will interlock when the awning is retracted 1 to 2 cm.

The interlocking is fixed by tightening the locking screw. While setting the end position, the tips of the gear teeth may lie on top of each other for technical reasons.

For this reason, the interlocking must be disengaged by retracting the awning 1 to 2 cm.

6 Volant Plus option

6.1 Safety notes



CAUTION

Damage to the awning

Improper connection and wiring can damage the awning.

- ▶ **Always retract the Volant Plus fabric completely before you retract the entire awning. The use of any controls that do not ensure that the Volant Plus is retracted before the entire awning is retracted is not permissible.**



The adjustment range must not deviate by more than 10° to 20° from the standard.

6.2 Exploded Drawing - Volant Plus

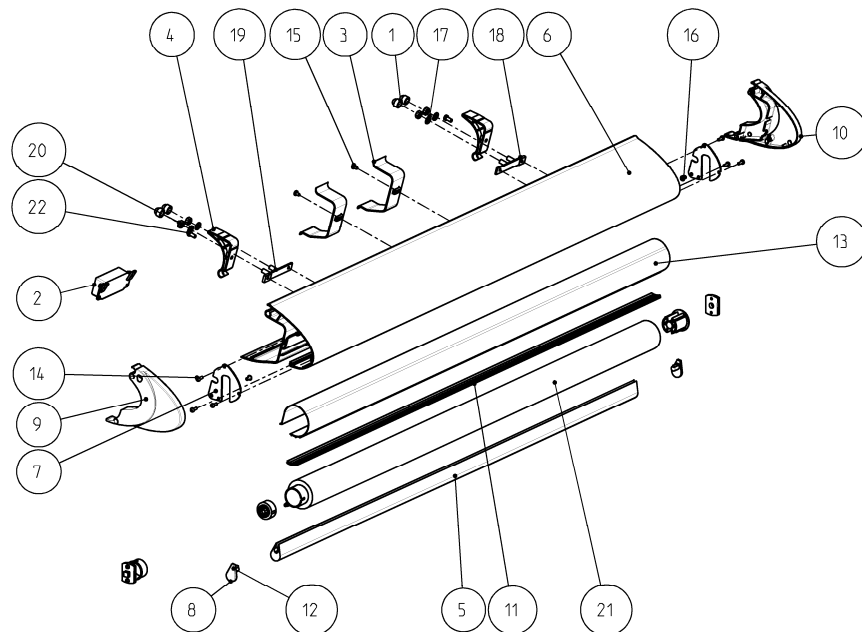


Figure 9: Exploded drawing - Volant Plus

1	Cover cap, SW13	12	Grub screw DIN914-M4x8
2	Agido Volant Plus	13	Glide profile
3	Arm stop	14	Pan head self-tapping screw DIN 7981-4.2x16
4	Drop profile stop cam for Volant Plus	15	Pan head self-tapping screw DIN 7981-4.8x9.5
5	Drop profile	16	Fillister head screw ISO 7380-M5x10
6	Volant Plus drop profile	17	Washer DIN 125A-8.4-A2
7	Drop profile inner cap	18	Carriage 20x5 L15 M6
8	Drop profile end cap for indented ropes	19	Slide rail for Volant Plus drop profile support bracket
9	Drop profile cap left	20	Hexagonal nut DIN 934-M8
10	Drop profile cap right	21	Complete roller tube
11	Brush seal	22	Hexagon socket head cap screw DIN6912 M6x12

7 Circuit diagram Opal Design II

7.1 Safety notes on LED lamps



CAUTION

Damage to LED lamps

Incorrect installation and wiring can result in the LED lamps being damaged.

- **To ensure the proper functioning of the soft-start feature - which means full brightness is reached gradually - never connect the LED lighting device when energised. This also applies when replacing individual LED lamps. Always wire up the lamps with the power turned off and only then switch on using a 230 V AC power supply.**

7.2 Technical details - LED lamps

7.2.1 Lighting device

Nominal voltage:	230 V AC / 700 mA DC
Number of lamps:	2 - 11
Dimmable:	Yes (using a BiRec MLED)
Circuit design	Series-connected
IP code:	IP23
Protection class::	III

7.2.2 LED lamp

Illuminant:	LED light (Cree MX6)
Operating current::	700 mA constant current
Voltage per light::	3.7 V
Output per light:	2.6 W
Colour temperature:	Warm white (3000 K)
Radiation angle:	60°
Housing diameter:	29 mm
Housing height:	32 mm



The BiRec MLED/ MVLED automatically switches the light off after 12 hours.

Opal Design II / Opal Design II LED

Instructions for Assembly

7.3 Conventional Opal Design II

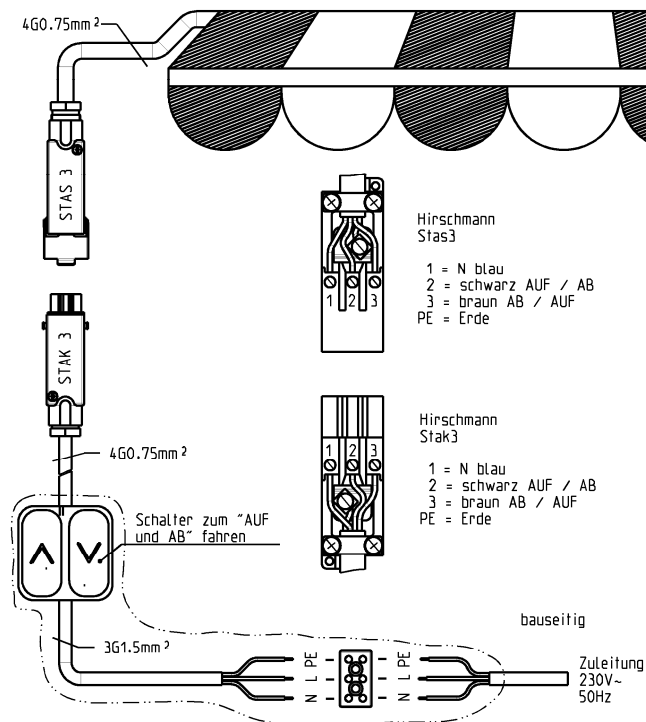


Figure 10: Circuit diagram - Conventional Opal Design II

7.4 Conventional Opal Design II LED

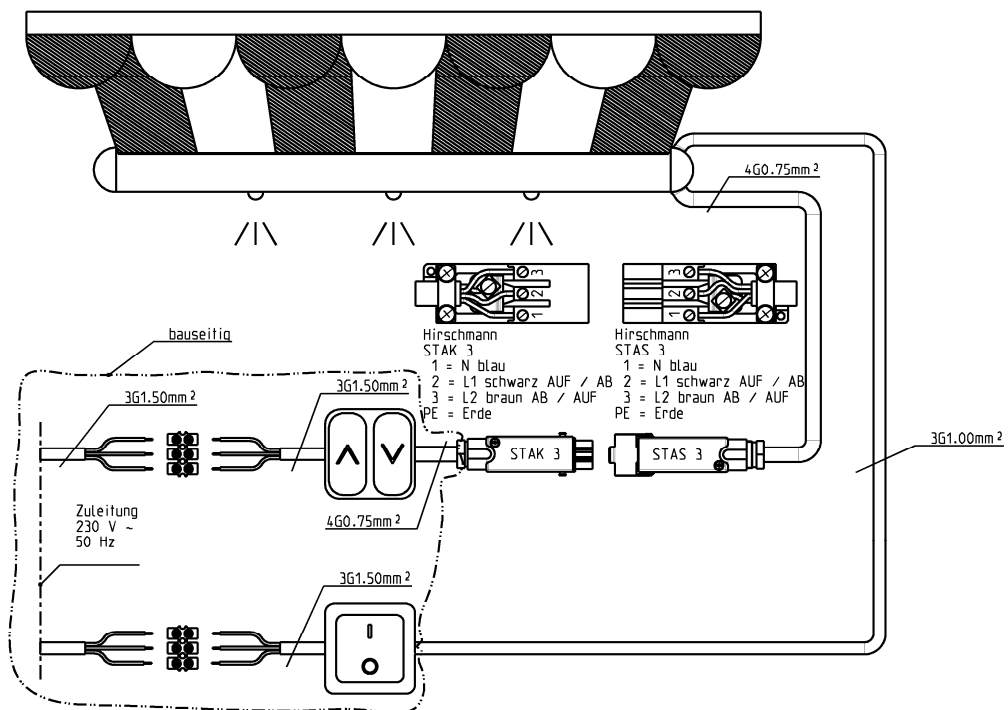


Figure 11: Circuit diagram - Conventional Opal Design II LED

7.5 Conventional Opal Design II LED Volant Plus

**CAUTION****Damage to the awning**

Improper connection and wiring can damage the awning.

- ▶ **Always retract the Volant Plus fabric completely before you retract the entire awning. The use of any controls that do not ensure that the Volant Plus is retracted before the entire awning is retracted is not permissible.**

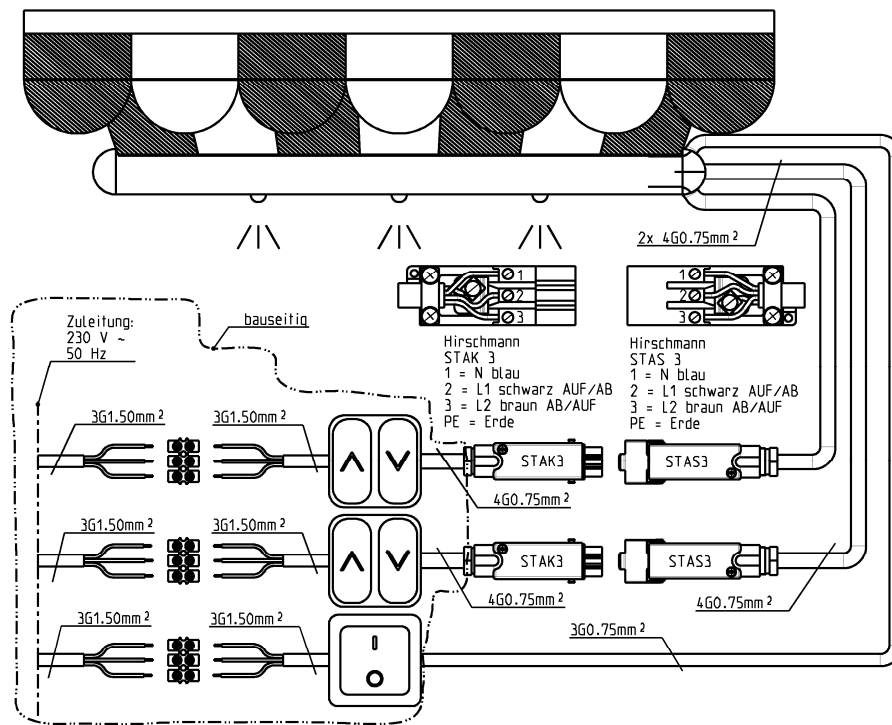


Figure 12: Circuit diagram - Conventional Opal Design II LED Volant Plus

7.6 Opal Design II/ LED/ Volant Plus with BiConnect



Please note! An all-pole disconnection (Hirschmann plug) is required in order to perform any maintenance work on the awning.

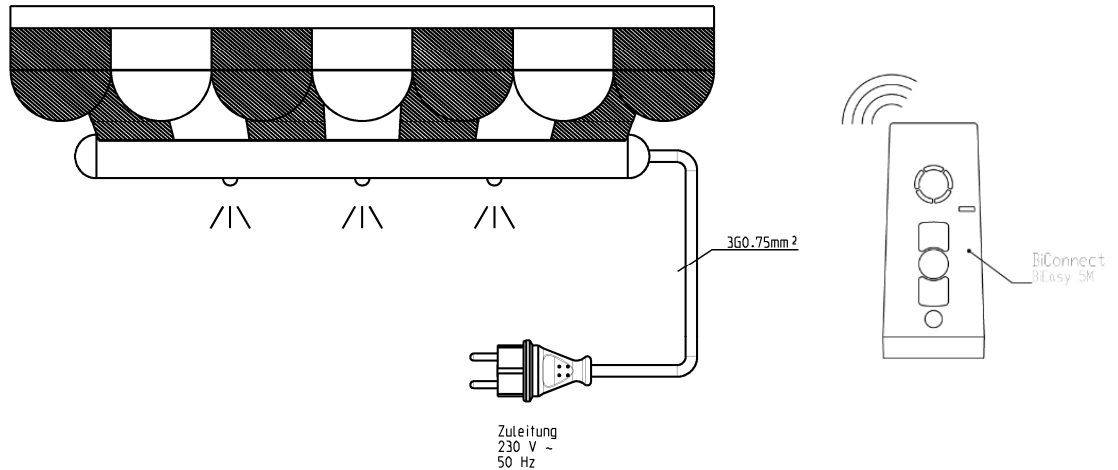


Figure 13: Circuit diagram - Opal Design II/ LED/ Volant Plus with BiConnect

7.7 LED lamp

7.7.1 Exploded drawing

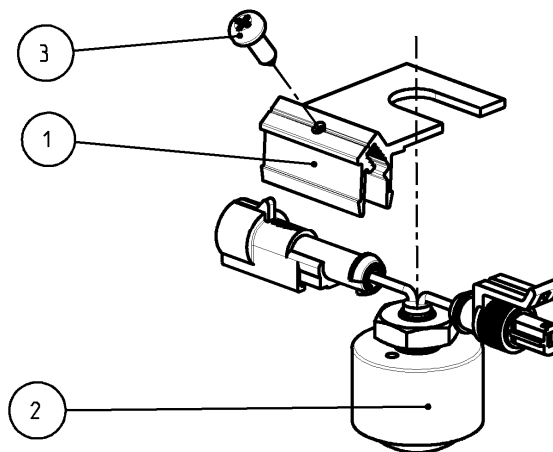


Figure 14: LED lamp

1 LED spotlight holder

2 LED spotlight

3 Raised countersunk screw DIN 7981-4,2x13-C-A2-H

7.8 Transformer box

7.8.1 Exploded drawing

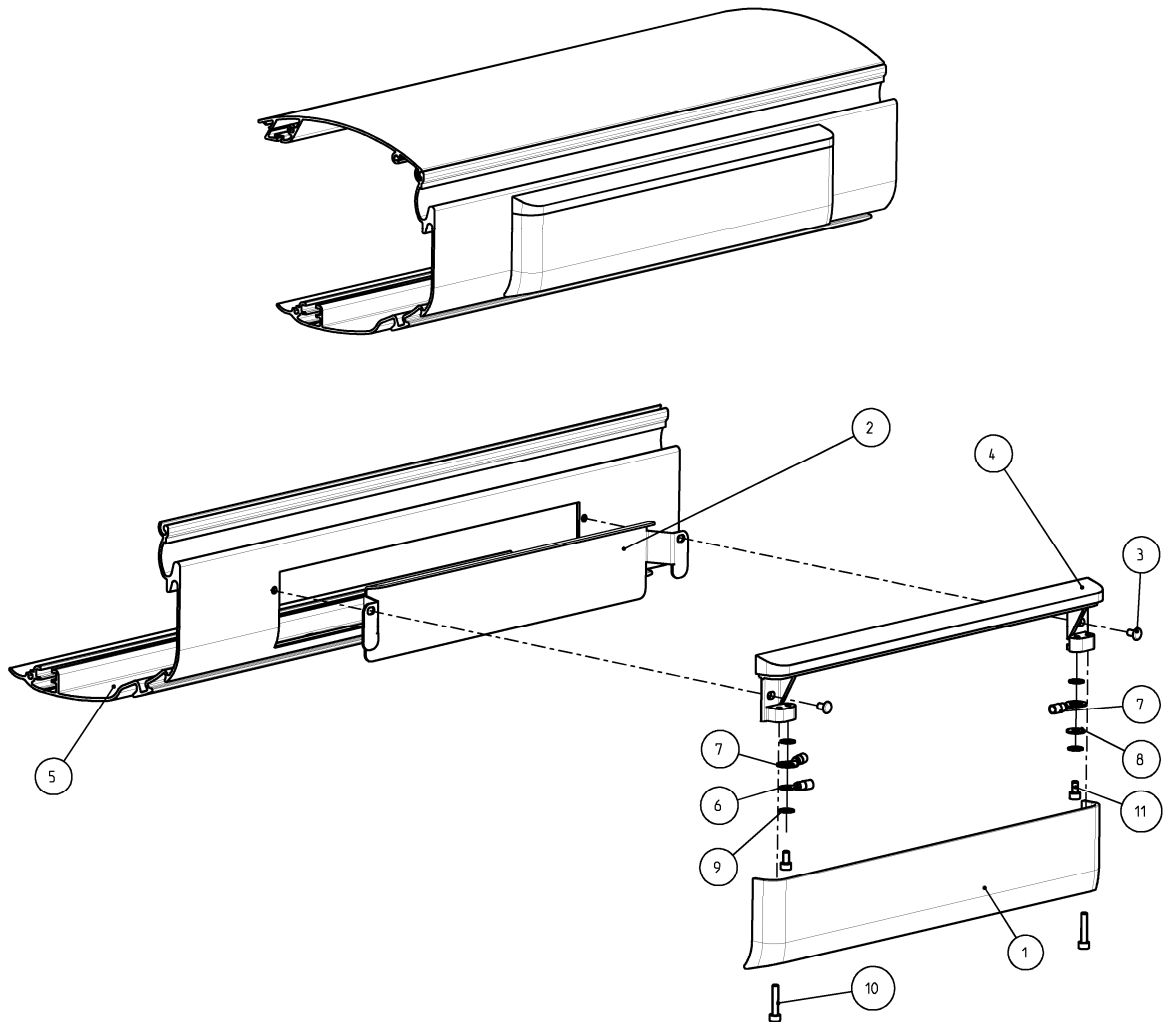


Fig. 15: Transformer box

1	Transformer box cover	7	Ring terminal M8
2	Sheet metal holder for transformer	8	Washer DIN 9021-4.3-A2125B-21-A2
3	Blind rivet DIN 7337-A4 x 12	9	Toothed lock washer DIN 6797 A5,3
4	Transformer holder, inside	10	Socket head cap screw DIN912-M4x20
5	Housing floor profile	11	Socket head cap screw DIN912-M4x8
6	Ring terminal M5		



Use the supplied breakout cable to adjust or operate the motor without a WeiTronic radio receiver.

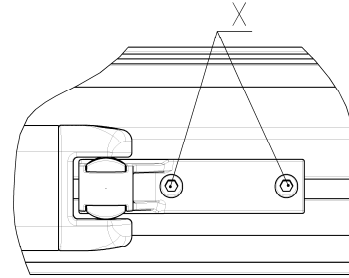
8 Adjusting the arm position



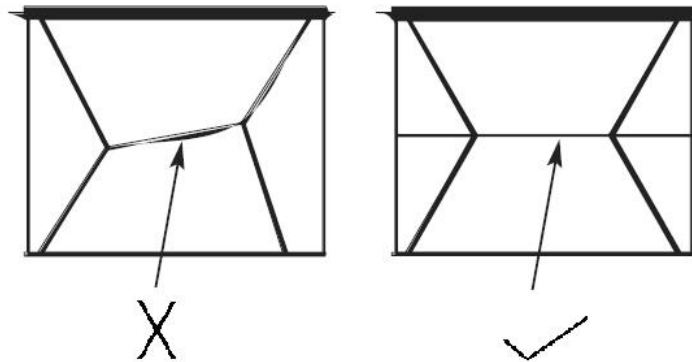
The arm position needs to be adjusted if:

- The drop profile needs to be set to a symmetrical position,
- The arms come up to the housing differently.

1. Loosen the Allen screws (X)



2. Set the correct arm position.
3. Retighten the Allen screws.

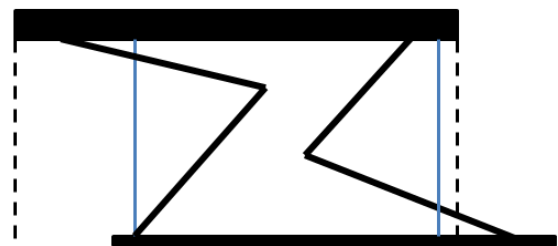


8.1 Possible incorrect positions of the awning

1. Fabric / drop profile has moved

Remedy:

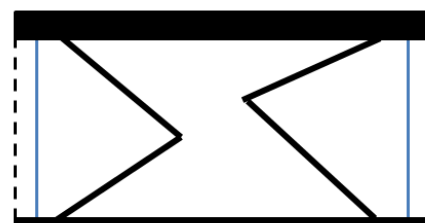
- Slacken the fabric in the drop profile
- Slacken the drop profile support bracket
- Align the drop profile and the folding arms and remount them
- Refit the fabric in the drop profile



2. Folding arms are not symmetrical

Remedy:

- Slacken the drop profile support bracket
- Slide the arms symmetrically
- Refit the drop profile support bracket



9 Electrical connection

9.1 Safety notes

DANGER

Electrical hazards

Electrical hazards occur when the electrical connections are not performed properly.

- ▶ **The awning may only be connected to an electricity supply if the specifications provided on the tag attached to the awning and/or the specifications provided in the supplied assembly instructions tally with the power source. At the very least, the tag and/or specifications must specify the voltage, frequency and output values.**
- ▶ **A permanent electrical connection may only be made to power grids fitted with an all-pole disconnecter with a minimum 3 mm wide contact gap.**
- ▶ **The installation instructions accompanying the supplied electrical components must be observed.**

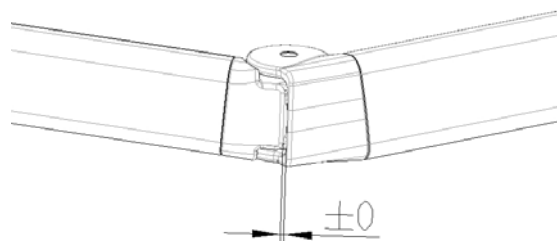
9.2 Setting the end positions

CAUTION

Damage to the product

Incorrectly set end positions can result in the product being damaged.

- ▶ **Do not exceed the maximum permissible awning length.**
- ▶ **The middle joint must be only opened far enough so that the high-tech belt is no longer visible.**



The end positions for the drive are pre-set at the factory. Should these need to be adjusted, however, always follow the instructions provided in the technical documents that accompany the electric drive.

Check that the drive is switched off

1. Once the awning has been installed, check that the drive has been switched off correctly. The cassette must close when the awning is retracted.
2. Re-set if necessary.



If a larger angle of pitch is set, it may be necessary to re-program the end positions for the drive.

Opal Design II / Opal Design II LED

Instructions for Assembly

10 Exploded Drawing - Opal Design II

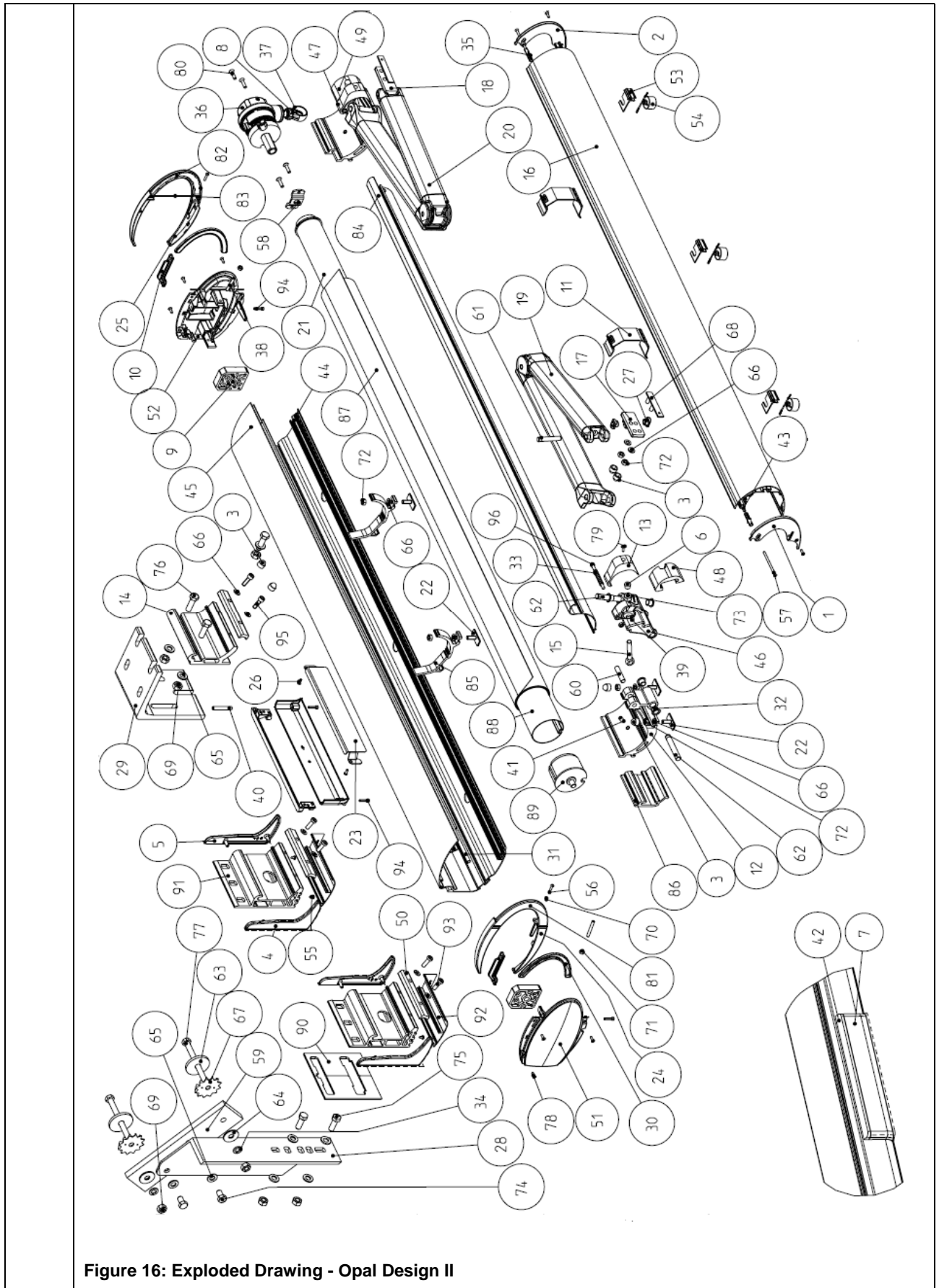


Figure 16: Exploded Drawing - Opal Design II

Opal Design II / Opal Design II LED**Instructions for Assembly**

Item	Designation	Item	Designation
1	Drop profile cover cap, left	49	Tilting part slider, right
2	Drop profile cover cap, right	50	Clamp profile member
3	Cover cap, SW 13	51	Headplate, left
4	Wall bracket cover cap, left	52	Headplate, right
5	Wall bracket cover cap, right	53	LED spotlight holder
6	Cover plug D10	54	LED spotlight
7	Transformer box cover	55	Slotted pan head screw DIN 7981-4.2x9.5
8	Axis for gear box D10x37.5	56	Fillister hex head screw ISO 7380-M4x20
9	Adapter	57	Oval head wood screw DIN 7995-4.5x80
10	Adapter locking device	58	Becker awning bracket, small
11	Arm stop	59	Mounting plate for rafter bracket
12	Arm bracket	60	Knurled nut with internal thread D10x46
13	Stop cam	61	Knurled nut with internal thread D10x59
14	Retaining plate	62	Knurled nut with internal thread D10x46
15	Eye screw	63	Washer DIN 1052-14-St-Zn
16	Drop profile for belt arm	64	Washer DIN 9021-13-A2
17	Drop profile support bracket, left	65	Washer DIN 125A-13-A2
18	Drop profile support bracket, right	66	Washer DIN 125A-8.4-A2
19	Belt arm, left	67	Plate dowel DIN 1052-C2 62/12
20	Belt arm, right	68	Slide rail Volant Plus drop profile support bracket
21	Drive	69	Hexagonal nut DIN 934-M12
22	Clamping slider	70	Hexagonal nut DIN 934-M4
23	Sheet metal holder	71	Hexagonal nut DIN 934-M6
24	Faceplate, left	72	Hexagonal nut DIN 934-M8
25	Faceplate, right	73	Hexagon nut, self-locking DIN 985-M10
26	Blind rivet DIN 7337-A4x12	74	Hex socket head screw DIN 933-M12x20
27	Drop profile support bracket bushing	75	Hex socket head screw DIN 933-M12x35
28	Rafter bracket, left	76	Hex socket head screw DIN 933-M12x40
29	Ceiling angle	77	Hex socket head screw DIN 933-M12x140
30	Crescent-shaped cap seal	78	Countersunk self-tapping screw DIN7982-St4.2x16
31	Sealing section, 8 mm	79	Countersunk self-tapping screw DIN7982-St4.2x19
32	DUB flanged bush BB1212DUB	80	Countersunk hex head screw DIN 7991-M6x25
33	Spring D10x44.5	81	Crescent-shaped cap, left
34	Circlip DIN 127 B12	82	Crescent-shaped cap, right
35	Fischer wall plug S8	83	Pin for headplate
36	Sprag clutch	84	Support profile, gear box
37	Geiger ball ear	85	Support section clamp, 20 mm
38	Grub screw DIN913-M6x45-A2	86	Support profile
39	Grub screw DIN913-M8x20-A2	87	Fabric
40	Grub screw DIN913-M8x50-A2	88	Roller tube 78x1.25
41	Grub screw DIN913-M8x16	89	Roller tube insert D78 AD 12x16
42	Transformer holder, inside	90	Base plate
43	Hard cord edge, 5.2 mm	91	Wall bracket, 150 mm
44	Housing floor profile	92	Wall bracket top profile
45	Top of housing	93	Hex. socket head cap screw DIN6912 M8x25
46	Tilting member, left	94	Hex. socket head cap screw DIN912 M4x20
47	Tilting member, right	95	Hex. socket head cap screw DIN912 M8x25
48	Tilting part slider, left	96	Hex. socket head cap screw DIN912 M6x75

11 Test that the unit is working correctly

11.1 Safety notes



DANGER

Physical injury

Performing function tests is not without its risks. The following steps must be taken:

- ▶ **When running the awning for the first time, the working range of the awning and the area below it must be kept clear.**
- ▶ **A visual inspection of the fixings and brackets must be performed after the awning has been operated for the first time.**
- ▶ **When carrying out test runs, never use automatic controls or switches if the awning is not in the operator's line of vision (danger of awning starting unintentionally).**
- ▶ **We recommend that you connect a test cable to the motor input. The installation and setting instructions supplied by the manufacturer of the drive, switches and controls must be observed.**
- ▶ **Check the direction of rotation on the drive if connecting to automatic controls (e.g. the awning must retract in windy conditions).**

11.2 Checking the functions of the unit



The drive has been designed to run for 4 minutes. If this time is exceeded, the internal thermo protector will switch off the drive. Depending on the outside temperature, the drive can be operated again after 10 – 15 minutes.

Open and retract the awning once. As you do this, check the following:

- The fabric tension when the awning is open
- The position of the awning when opened and retracted
- That the awning housing closes properly

12 Troubleshooting

Error	Cause	Remedy
Drive not running	<ul style="list-style-type: none"> No power Drive incorrectly connected Drive is too hot Drive is defective Pre-set control not functioning 	<ul style="list-style-type: none"> Authorised person only Re-connect drive (authorised personnel only) Wait 10 to 15 min Replace drive (authorised personnel only) Authorised person only
Unit does not retract completely	Drive not set correctly Foreign body blockage	Correct the drive settings (fitter) Remove foreign bodies
Unit not straight	Unit not correctly aligned	Align drive (fitter)
Not enough fabric tension	End stop position exceeded	Correct the drive settings (fitter)
Drop profile not horizontal when awning is open	Unit not correctly aligned	Adjust inclination of arms
Unit does not close across its entire width	Fabric seam not straight Fabric has stretched to differing lengths	Line fabric
Creasing and wrinkling	Restricted unit	None
A system part does not close in 2-field systems	System parts are wrongly coupled Different fabric lengths	Check the system coupling Use fabrics of the same length
Crescent-shaped cap does not lock correctly	Miscellaneous	Adjust the crescent-shaped cap

13 Handover

All directions for use and maintenance documents must be handed over to the user at the time of instruction. Detailed instruction on the safe and proper operation of the awning must be given. If this is not adhered to and the awning is operated incorrectly, damage to the awning or accidents could result. The instructions must be kept by the customer and passed on to the new owner if ownership of the awning passes to a third party.

After noting the on-site structural conditions and completing assembly, the installation firm is to inform the user whether the wind resistance class given by the manufacturer was achieved after installing the awning. If not, the installation firm must record the wind resistance class actually achieved. Automatic controls must be set to this level. The customer must confirm to the fitter in writing that the awning is the right model and has been installed correctly, indicating the assembly time, and that final acceptance of the awning has taken place during which the safety issues were discussed.

14 Disassembly and disposal



DANGER

Physical injury may result from pre-tensioned parts

When dismantling and disposing of the awning, fully slacken or secure the tensioned parts (e.g. folding arms) to prevent them from opening or extending automatically.

- ▶ **A suitably qualified company should be engaged to perform this task.**

Although this product does not contain any materials which pose a risk or danger to the environment, the awning parts should nevertheless be disposed of properly.

Opal Design II / Opal Design II LED**Instructions for Assembly****15 Handover certificate**

Offer/Order No.:	Company																						
Customer's address:																							
Tel.:																							
Mobile phone:																							
Email:																							
Handover certificate	Date																						
<p>The awning has been reviewed together with Ms/Mr _____ and accepted with no apparent defects: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If 'No', what is the subject of complaint?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>*If the customer dispenses with a formal acceptance and puts the awning into operation, the awning shall be regarded as accepted.</p>																							
<p>The customer has been duly instructed in how to operate the awning as shown in the Maintenance Instructions and Directions for Use</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>The awning may be used under the following conditions:</p> <p>Useable up to wind strength _____</p> <p>Wind: <input type="checkbox"/> Not permissible Rain: <input type="checkbox"/> Permissible if supervised Risk of frost: <input type="checkbox"/> Permissible without restriction <input type="checkbox"/> Not permissible</p>																						
<p>The customer has been given the following documents:</p> <table> <tr> <td>Maintenance Instructions and Directions for Use</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>Manufacturer's instructions for assembly and setting</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td>Assembly Instructions</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>the drive, switches and controls</td> <td>No</td> </tr> <tr> <td>Warranty documents</td> <td></td> <td></td> <td></td> </tr> </table>				Maintenance Instructions and Directions for Use	<input type="checkbox"/> Yes <input type="checkbox"/> No	Manufacturer's instructions for assembly and setting	<input type="checkbox"/> Yes <input type="checkbox"/> No	Assembly Instructions	<input type="checkbox"/> Yes <input type="checkbox"/> No	the drive, switches and controls	No	Warranty documents											
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Miscellaneous:	<table border="1"> <thead> <tr> <th colspan="4">Die Montage erfolgte durch:</th> </tr> <tr> <th>Name</th> <th>von Uhrzeit</th> <th>bis Uhrzeit</th> <th>Stunden</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Die Montage erfolgte durch:				Name	von Uhrzeit	bis Uhrzeit	Stunden												
Die Montage erfolgte durch:																							
Name	von Uhrzeit	bis Uhrzeit	Stunden																				

Signature of fitter

Signature of customer

Item number 116523-0000

Version 4

01.04.2014

We reserve the right to make technical changes
Page 46/49

Lebensraum Terrasse | **weinor**

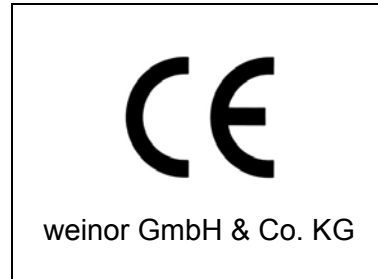
16 Declaration of performance

Products:

Opal Design II

Types:

Folding arm awning



Designed for use in acc. with DIN EN 13561 "External blinds - Performance requirements including safety; German version: 2009-01"

Manufacturer:

weinor GmbH & Co. KG
 Mathias-Brüggen-Straße 110
 50829 Cologne, Germany

Certification in acc. with system of assessment 4 of Construction Products Directive 305/2011/EC has been obtained by the manufacturer.

If used as intended, this product complies with the main features defined in the following standards.

Declared performance:

Main features/ performance	Standard	Declared performance
Wind resistance class (0-3)	DIN EN 13561 External blinds - Performance requirements including safety; German version: 2009-01	Wind resistance class 2

Person authorised to compile the technical documents:

Czarnetzki, Erwin, Documentation Officer
 weinor GmbH & Co. KG
 Mathias-Brüggen-Str. 110
 50829 Cologne, Germany

Date/ Signature:

Cologne, 1 July 2013

A handwritten signature in black ink, appearing to read 'ppa. Stawski'.

ppa. Karl-Heinz Stawski

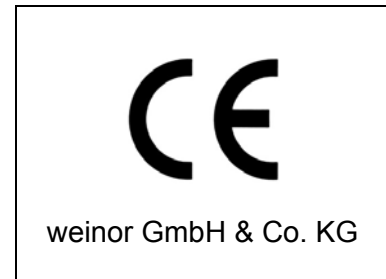
17 EC Declaration of Conformity

Products:

Opal Design II

Types:

Folding arm awning

**Purpose:** outdoor sun protection

Motor-driven models are in conformity with the provisions of Machine Directive 2006/42/EC

The following harmonised standards have been applied in particular:

DIN EN 13561, Annex ZA

DIN EN 60335-1

DIN EN 60335-2-97

DIN EN 50366:2003 + A1:2006

The following standards have also been employed for the use of LED lighting:

EN 60598-1:2008 + A11: 2009

EN 60598-2-2

EN 62471:2009-03

EN 55015:2009

EN 61000-3-2: 2008

EN 61000-3-3: 2009

EN 61547:1995 + A1:2010

The safety objectives of Low Voltage Directive 2006/95/EC have been complied with in accordance with Annex I No. 1.5.1. of Directive 2006/42/EC. Electromagnetic Compatibility (EMC) Directive 2004/108/EC has been taken into account.

Person authorised to compile the technical documents:

Czarnetzki, Erwin, Documentation Officer

weinor GmbH & Co. KG

Mathias-Brüggen-Str. 110

50829 Cologne, Germany

Manufacturer:

weinor GmbH & Co. KG

Mathias-Brüggen-Straße 110

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Date / Signature:

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Cologne (Germany), 1 July 2013

ppa. Karl-Heinz Stawski