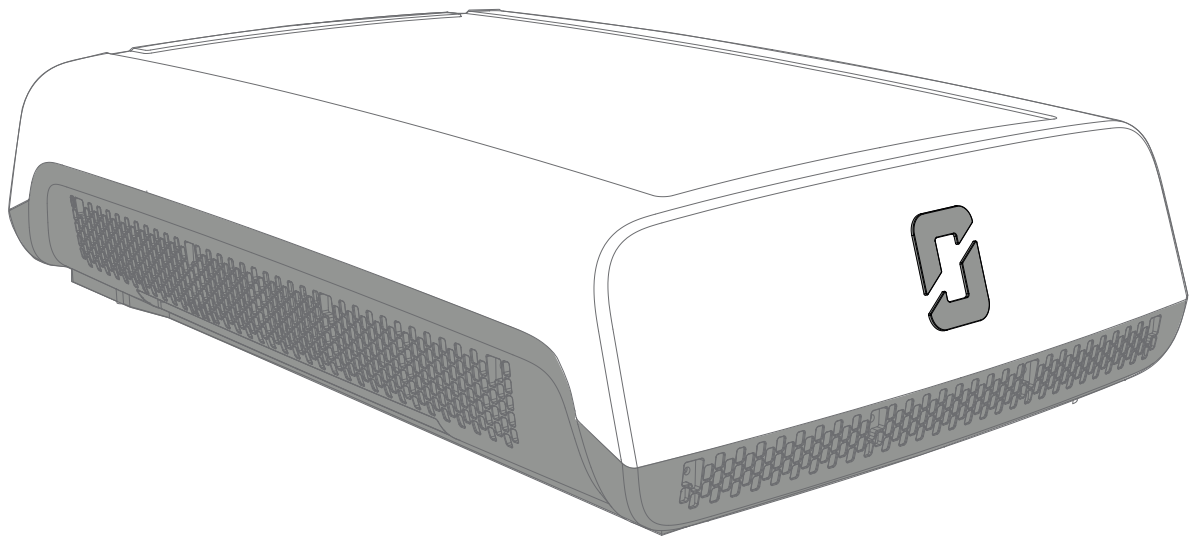




INSTALLATION MANUAL



Breezonic Performance Breezonic Performance Plus

Version : 1.5

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1 Important Information




Ensure that you read and understand the manual prior to using your air conditioner.

Installation of the air conditioner must be performed by qualified personnel. Refer to the Installation instructions document for information on how to install.

1.1 Safety symbols

	Danger	Instructions that if not followed, will result in death or serious injury
	Warning	Instructions that if not followed, could result in death or serious injury
	Caution	Instructions that if not followed, could result in moderate injury or property damage
	Note	Supplementary information

1.2 Safety symbols used on the air conditioner

	Consult the operating manual
	Consult the service manual
	Low burning velocity material

1.3 Safety Precautions

- This document is intended for trained technicians qualified for installation of mains connected appliances. Refrigerant may not contain an odour.
- Electrical installation must be carried out by a qualified person, following applicable regulatory standards.
- Installation and repairs must be performed by a qualified person. Do not attempt to repair or dismantle the air conditioner yourself as this can result in electric shock or fire hazards. Please consult an authorised service centre for repairs and maintenance.
- Beware of fire in case of refrigerant leakage.



Danger - Risk of Fire or Explosion

- Flammable refrigerant inside the unit.
- To be repaired only by trained service personnel.
- Follow handling / installation instructions carefully in compliance with national regulations.
- Do not puncture refrigerant tubing.
- Dispose of properly in accordance with national or local regulations



Danger - In case of misuse

- Misuse and/or improper configuration, installation, modification, maintenance, or repair of the product can result in hazardous situations.
- Never use product arrangements or configurations that are not approved by the manufacturer.
- Never carry out installation, modification, maintenance or repair steps that are not approved by the manufacturer.
- Never use spare or accessory parts that are not original or approved by the manufacturer.
- Ensure the power cord supplying the vehicle is uncoiled before operating the unit to prevent overheating of the cord.



Danger - Risk of undercooling/underheating

- Do not rely on the Breezonic for survival in adverse weather conditions. The operation can be subject to electrical and mechanical interruptions that may prevent the unit from operating continuously.

1.4 General limitation of liability

- The manufacturer is not liable for damage caused by disregard of the technical documentation or technical data and/or the safety instruction, non-intended use or incorrect operation.
- Third party claims against the manufacturer due to misuse or the failure of the trade, the installation workshop or operator to meet their duty to instruct will be passed on accordingly.
- The obligations agreed in the supply agreement, the general terms and conditions of business and the supply conditions of the manufacturer apply, and the statutory provisions applicable at the time at which the contract was concluded.
- The guarantee only extends to original components of Breezonic.
- We reserve the right to make any changes as part of the improvement of performance characteristics and further technical development.

1.5 Intended use





Installation on the roof of recreational vehicles (RV's) caravans, pop-top caravans and camper trailers connected to a 230V AC power supply with operation while the vehicle is stationary only. The air conditioner is for use in the living areas of the vehicle.

The air conditioner is NOT intended for use in fixed installations such as domestic situations or on cabins or other structures. It is not intended for use on boats, food trucks or construction / agricultural machinery.

The air conditioner must not be used in any way contrary to the intended use.

2 Technical data

Operating information

	Breezonic Performance	Breezonic Performance Plus
Supply voltage	220-240 V 50/60 Hz AC	220-240 V 50/60 Hz AC
Current consumption (Cooling)	4.1 A	6.5 A
Current consumption (Heating)	4.2 A	6.0 A
Cooling capacity (ISO 5151)	2500 W	3500 W
Heating capacity (ISO 5151)	2400 W	3600 W
Maximum airflow (ISO 5151)	542 m3/h	608 m3/h
Cooling technology	Inverter with variable speed compressor/soft ramp - up	Inverter with variable speed compressor/soft ramp - up
Refrigerant/quantity	R32/0.385 kg	R32/0.495 kg
Operating temperature	-7°C to 52°C	-7°C to 52°C
Storage temperature	-40°C to 80°C	-40°C to 80°C
Dimensions rooftop unit	1051 x 698 x 250 mm	1051 x 698 x 250 mm
Dimensions ADB	503 x 482 x 45 mm	503 x 482 x 45 mm
Installed product weight (excl. sealant)	35.8 kg	38.0 kg
Roof opening size	360 x 360 mm - 400 x 400 mm	360 x 360 mm - 400 x 400 mm
Roof thickness (standard)	25 mm - 70 mm	25 mm - 70 mm
Roof thickness (with additional kit)	70 mm - 100 mm	70 mm - 100 mm
Maximum angle of operation	10° (all directions)	10° (all directions)
Water protection rating	IPX4	IPX4
Fuse	10A	10A
Certification	 	 

3 Included components

3.1 Roof top air conditioner

Reference	Part name	Qty
29021841000601	Breezonic Performance Plus 3.5kW	1
OR 2902184100050	Breezonic Performance 2.5kW	1
2902480100310	Roof mounting mid-plate	1
2902482200100	Wago connector	3
	Installation instructions	1
	Operating instructions	1

3.2 Air distribution box (ADB)

Reference	Part name	Qty
29021811000020	Air distribution box (ADB)	1
2902480200250	Duct section – top	1
2902480100330	Duct section – middle	5
2902480100270	Duct section – base	1
2902480100370	Ceiling plate	2
2902484100510	M6 x 125 mm screws & washers for roof top unit	4
2902484100500	M5 x 10 mm screws for ADB	4

4 Installation



Warning

- Installation and repair must only be performed by qualified personnel.
- Ensure power supply has been disconnected when working on the air conditioner.
- Failure to follow these instructions can result in injury or death to the installer or users of the vehicle.
- Installation must comply with all regulatory compliance requirements.

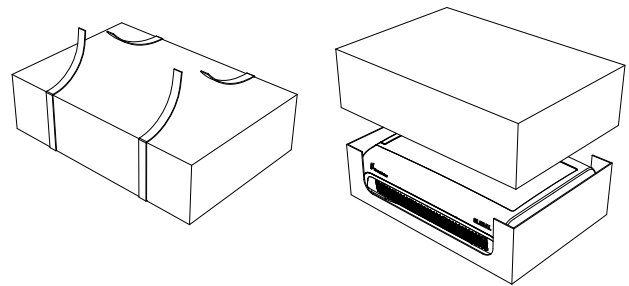
4.1 Before beginning installation



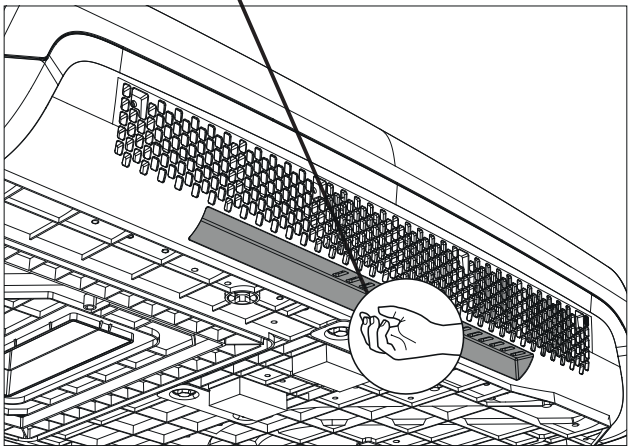
Danger

- Ensure power to the vehicle is disconnected, including from battery sources.

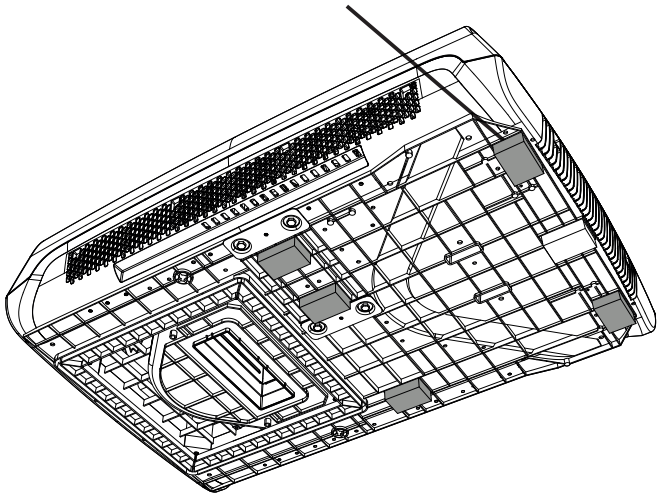
Remove from the box by cutting straps and lifting the lid upwards from the box base.



The air conditioner can be lifted with two people using the handles on the side of the unit.



Ensure the rectangular foam pads underneath the unit remain in place when handling.



4.2 Choosing the installation location



Warning

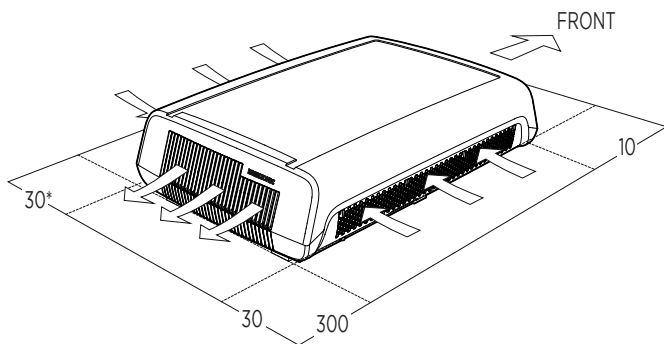
- Check with the manufacturer of the vehicle that the roof can support the loads of the air conditioner at the installed location.

The location should be as close as possible to the centre of the vehicle and be between two roof supports.

Ensure the roof angle is no greater than 10° in any direction.

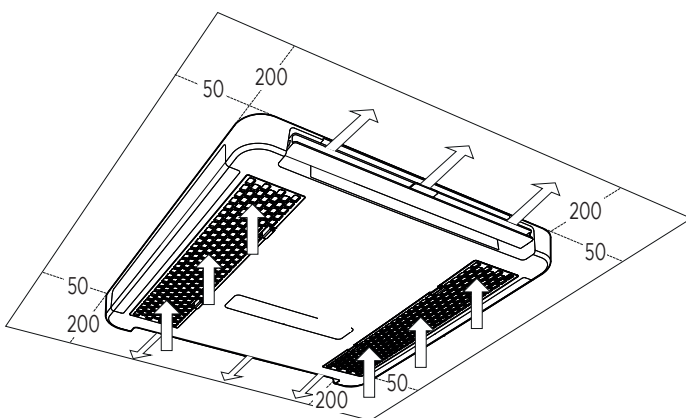
Airflow to and from the rooftop unit is required for the air conditioner to operate effectively. Ensure the minimum clearance is provided to other objects such as roof hatches and solar panels.

Ensure the unit is oriented with the air outlet grille facing the rear of the vehicle.



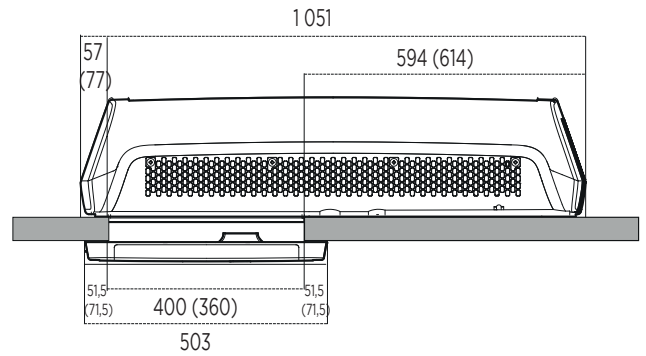
* Dimensions in mm

Ensure the ADB has the minimum clearance to other objects such as cabinets.

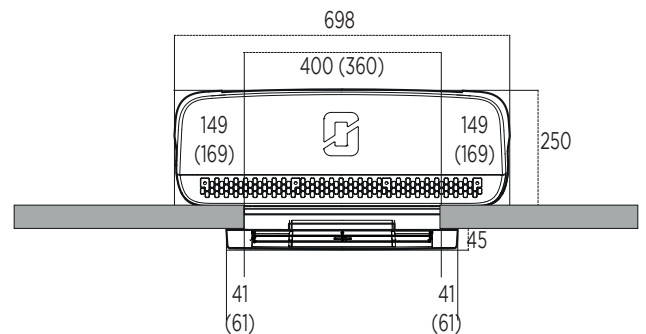


* Dimensions in mm

Side view



Front view



*Dimensions in mm

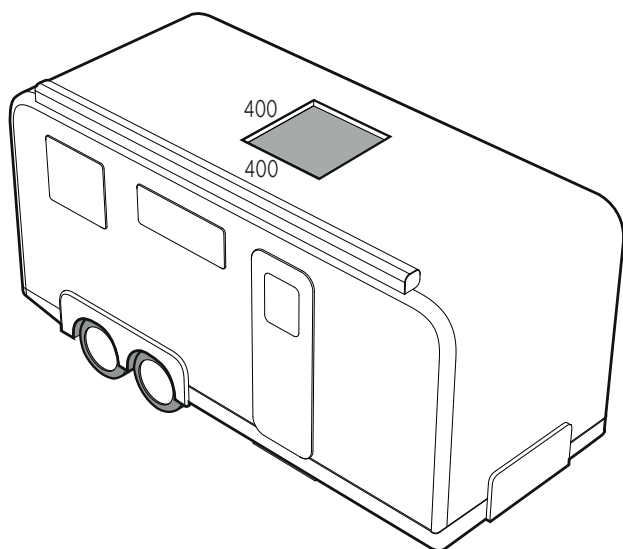
4.3 Making the opening



Warning

- Ensure no electrical wiring is in the path of cutting/drilling.

The air conditioner can be installed in an existing roof opening (replacing a hatch, for example), or by making a new opening.



- New opening: 400 mm x 400 mm
- Existing opening: 360 mm x 360 mm or 400 mm x 400 mm



Warning

- If the air conditioner is being fitted by replacing an existing roof hatch, ensure that any passive ventilation provided by the roof hatch is replaced by another source, to maintain safe ventilation of the vehicle.

Use a template to mark the opening before cutting.

After cutting the opening, reinforce the opening with an internal frame of at least 25 mm thickness around the perimeter of the opening, between the upper and lower roof panels.

4.4 Running the mains wiring

Check the voltage on the product label matches the mains supply voltage.



Warning

- A qualified electrician must perform the electrical work.

Run the wiring that will supply the mains voltage to the air conditioner and route it to the roof opening.

Ensure the air conditioner is on a dedicated circuit with a circuit breaker and residual current device (RCD). Ensure the cable thickness on the circuit can supply the required current.

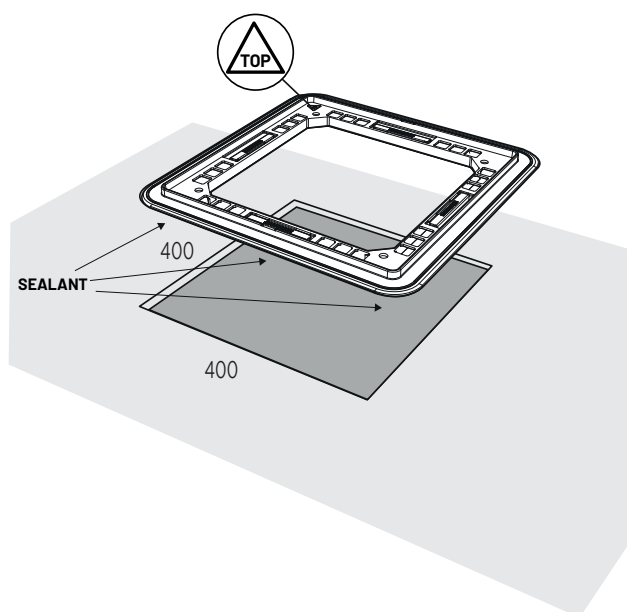
Wiring for an auxiliary controller (optional) can also be routed.

4.5 Installing the roof mounting plate

The roof mounting plate is designed to be used with 360 x 360 mm or 400 x 400 mm roof openings.

Hinged tabs on the roof mounting plate assist with alignment. For a 360 x 360 mm roof opening, cut or break where indicated so the tabs can hinge upwards. This can be done by putting the roof frame in place in the roof opening and pressing down.

Install the roof mounting plate onto the roof opening and seal with non-hardening Butyl sealing material, e.g. SikaLastomer-710, Selleys Butyl Mastic, Bostik Ezycalk Butyl Sealant, or similar.



4.6 Installing of roof top unit

Gently lower the rooftop unit onto the roof mounting plate.

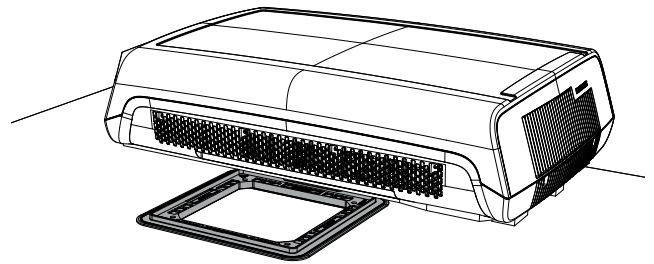
The vertical wall of the roofplate should rest between the channels of the rooftop unit, as shown by the highlighted surface.

From inside the vehicle, check the rooftop unit is evenly seated on the roofplate.



Caution

Ensure the unit has remained in the upright position for at least 2 hours before it is turned on.



Caution

- Do not drag the roof top unit across the roof as the foam blocks can be dislodged.



Caution

- Ensure the bottom surface is not obstructed by debris or sealant for adequate drainage.
- Ensure the foam pads remain in place to support the weight of the unit.

4.7 Connect the wiring

Communication wiring:

Lower the ADB to make the communication and power connections.

There are 3 plugs on extension wires from the ADB labelled "COMU", "RV-C" and "CI-bus."

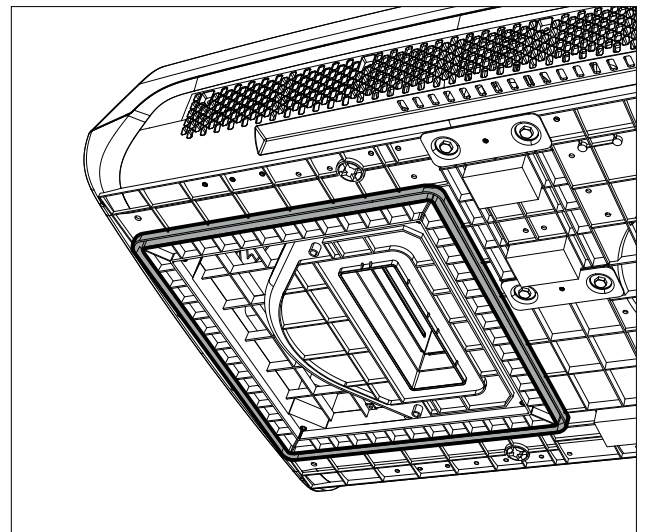
Connect the 4-pin plug labelled "COMU" of the ADB to the 4-pin connector labelled "COMU" from the rooftop unit.

Optionally, connect the 4-pin plug labelled "RV-C" of the ADB to the 4-pin connector of your optional RV-C auxiliary controller.

Optionally, connect the 2-pin plug labelled "CI" of the ADB to the 2-pin connector of your optional CI-bus auxiliary controller.

Power wiring:

Connect the wire labelled AC-L, AC-N and Earth to their respective supply wires from the vehicle using double insulated connectors and fasten to the underside of the ribs of the air return opening, forward of the ducts.



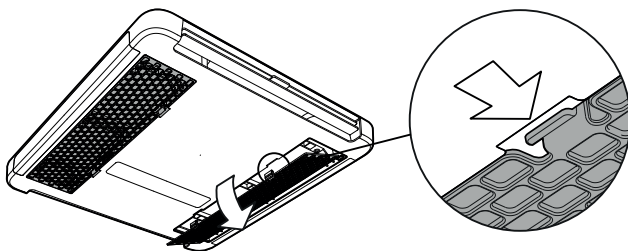
4.8 Fitting the ADB



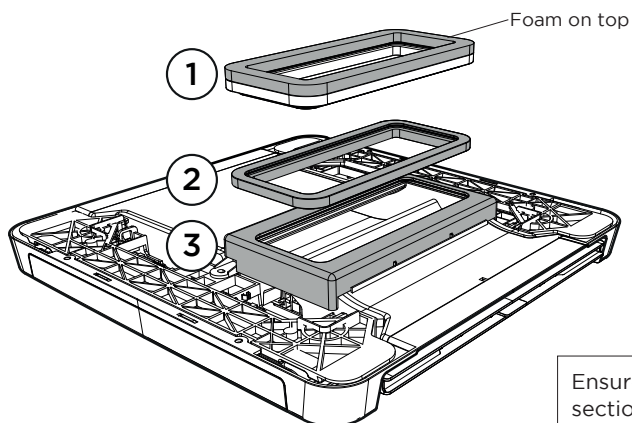
Caution

- Do not use an impact driver, as damaging the unit could reduce the mounting strength.
- Maximum torque 2.5 Nm.

Remove the two air grilles from the ADB by pressing the 2 tabs while rotating downwards.



Select the correct number of duct sections based on the roof thickness, according to the table below.



1. Foam duct section - Top
2. EPP duct section - Middle
3. EPP duct section - Base (Pre-fitted to ADB)

Roof thickness (mm)	Number of Middle duct sections required	EPP Top duct qty required	M6 x 125mm screws	M6 x 165mm screws
25 - 35	1	1	X	
35 - 45	2	1	X	
45 - 55	3	1	X	
55 - 65	4	1	X	
65 - 70	5	1	X	
70 - 75	5	1		X
75 - 85	6	1		X
85 - 95	7	1		X
95 - 100	8	1		X



Note

- Ensure ducts snap together to seal.
- The number of middle duct sections to be installed varies based on roof thickness.

Ensure the top duct section (1) contains the compressible foam on the top side and faces the roof top unit.

Add the required number of middle duct sections (2), according to the roof thickness.

Confirm the correct number of duct sections by offering the ADB up to the ceiling and checking that the ducts are sealing (compressing slightly) between the ADB and rooftop unit. The ducts can be viewed by looking through the air grille opening.



Note

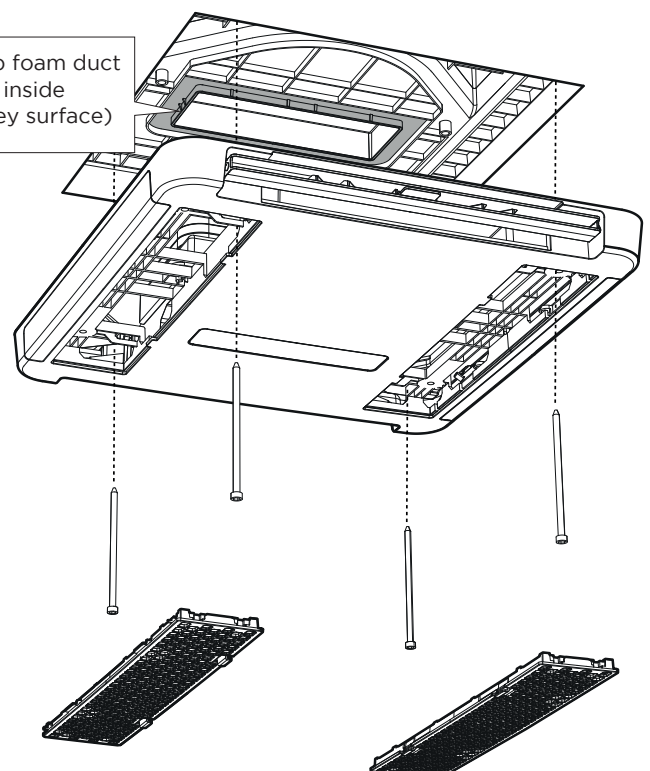
- If the roof thickness is greater than 70 mm, a kit is required containing longer screws and additional middle duct sections to suit roofs up to 100 mm thick.

Check the installation by confirming:

- Top foam duct sealing to rooftop unit (grey surface shown) without gaps or misalignment.
- No gaps between duct sections.

Fit the 4x M6 x 125 mm screws into the rooftop unit.

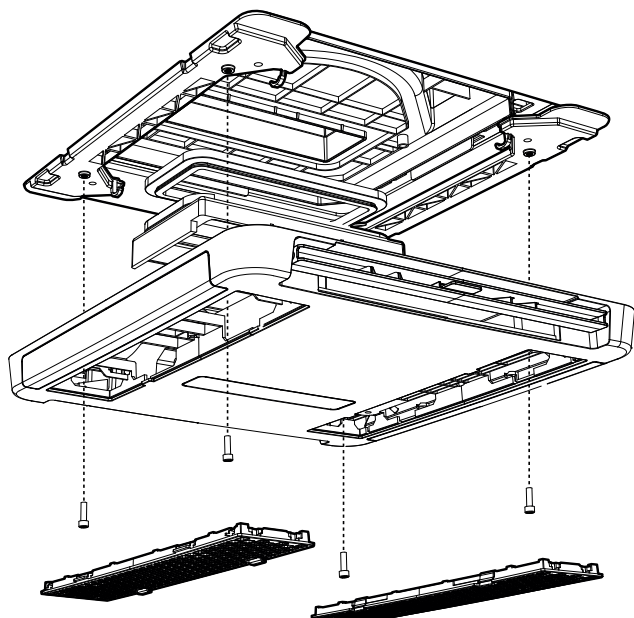
Ensure the top foam duct section mates inside channel on grey surface)



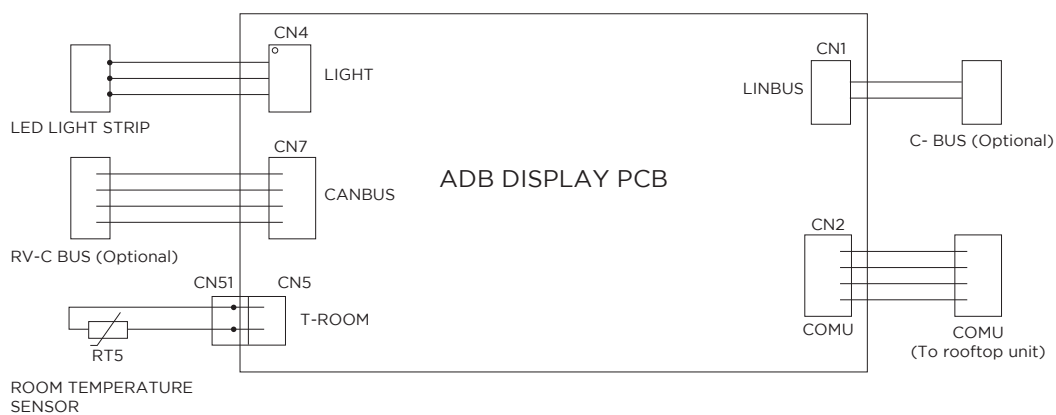
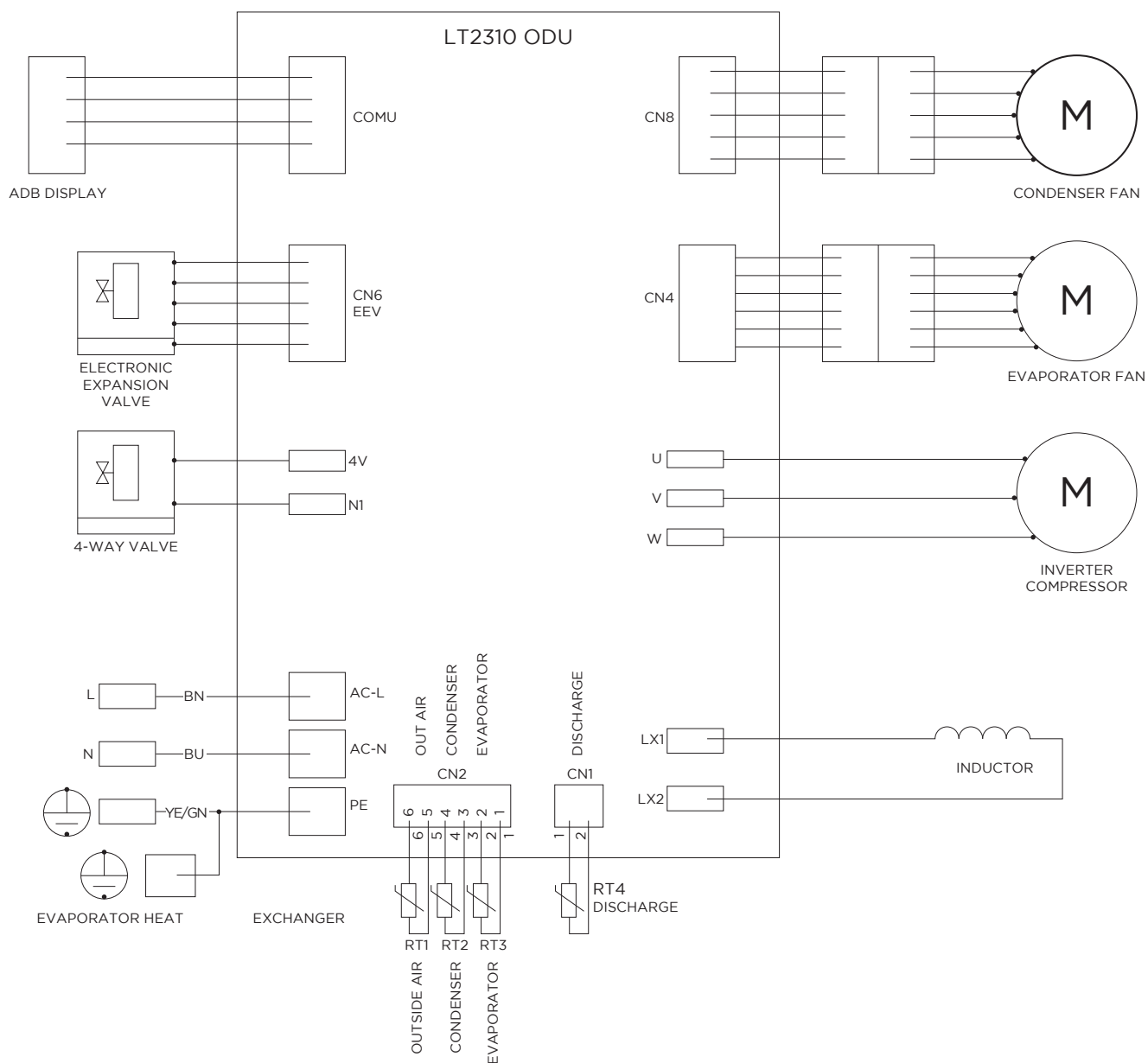
Start by hand to avoid cross-threading. Tighten to 2.5 Nm.

5 Removing or replacing the ADB

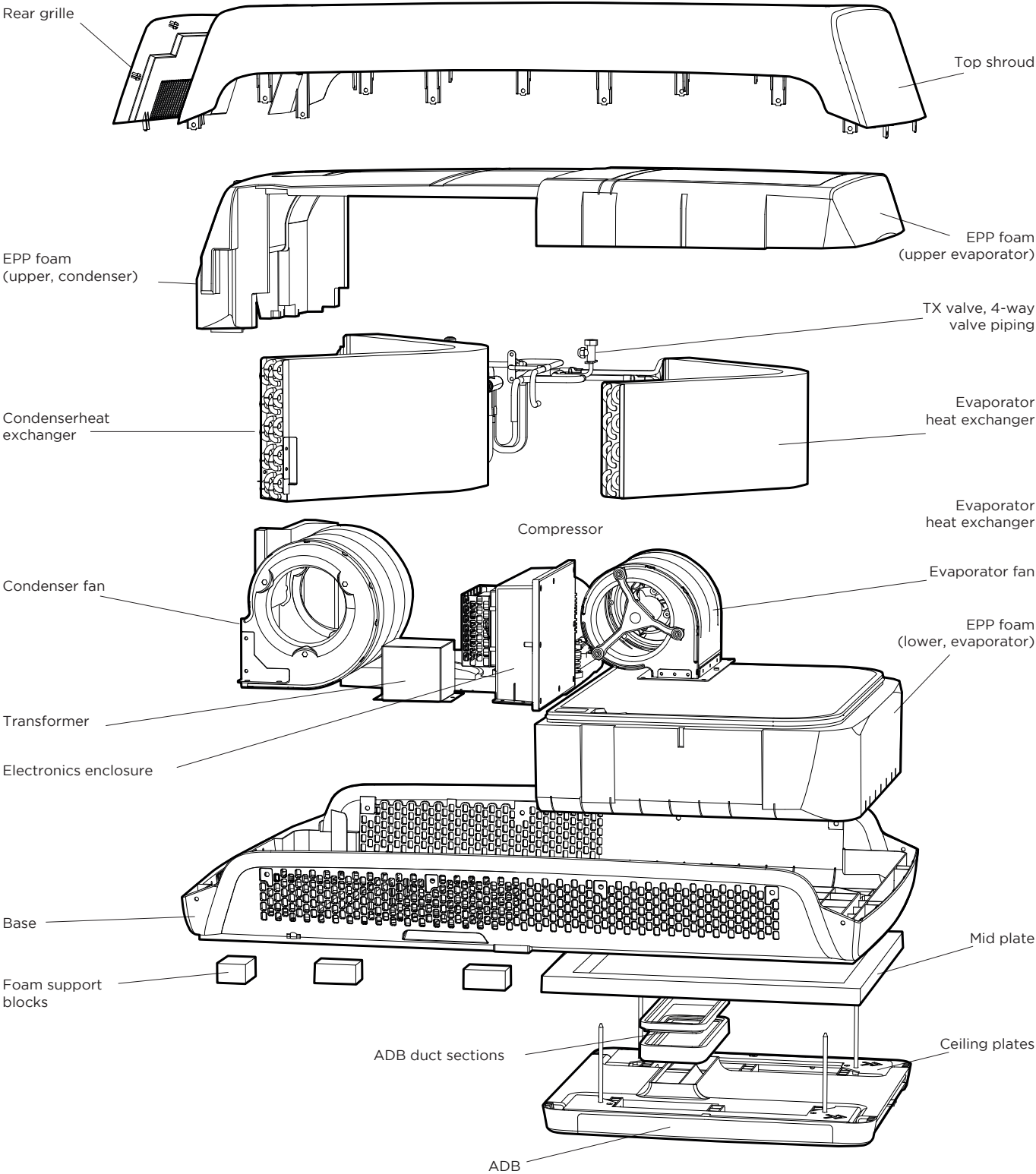
The ADB can be removed without compromising the sealing or security of the rooftop unit due to the brackets that fix the rooftop unit in place. The ADB can be removed from the brackets by removing the screws in 4 places below.



6 Electrical connection diagram



7 Spare parts



7.1 Accessories

Reference	Accessories	Quantity
2902800300650	Thick roof kit accessory (roof thickness 70 to 100 mm) • Duct section - middle • M6 x 165 mm screws & washers	3 4
2902482700070	Breezonic Solar Remote Control (optional)	1

7.2 Roof top unit

Reference	Part name	Quantity per install
2902480300070	Mid-plate assembly, with seals	1
2902482700122	Control box assembly (2.5kw only) including main PCB and enclosure.	1
2902482700022	Control box assembly (3.5kw only) including main PCB and enclosure.	1
2902480100102	Back grid	1
2902480200082	Foam support block 75x50x25	6
2902480100302	Front 'O' with adhesive tape	2
2902480109082	Shroud cover including Global Eberspacher printing & Front 'O' logo	1
2902484600032	Evaporator heat exchanger 2.5kW only. Special order.	1
2902484600042	Evaporator heat exchanger 3.5kW only. Special order.	1
2902484800012	Condenser heat exchanger 2.5kW only. Special order.	1
2902484800022	Condenser heat exchanger 3.5kW only. Special order.	1
2902484400062	Electronic expansion valve (2.5kW and 3.5kW)	1
2902484400072	Electronic 4-way valve (2.5kW and 3.5kW)	1
2902482600032	Evaporator motor fan (2.5kW and 3.5kW)	1
2902482600042	Condenser motor fan (2.5kW and 3.5kW)	1
2902482300282	Harness & thermistor set-condenser, evaporator, outdoor ambient	1
2902482300292	Harness & thermistor - discharge	1
2902482800022	Compressor (2.5kW only). Special order.	1
2902482800012	Compressor (3.5kW only). Special order.	1
2902480100132	Evaporator EPP top cover (2.5kW and 3.5kW). Special order.	1
2902480100152	Condenser EPP top cover (2.5kW and 3.5kW). Special order.	1
2902480100142	Evaporator EPP base (2.5kW and 3.5kW). Special order.	1

7.3 Air distribution box

Reference	Part name	Quantity per install
2902484100512	M6x125 (hex socket head, thread length 80) screws for roof top unit	4 (70 mm roof)
2902484100682	Plain Washers Ø6	4
2902480100272	EPP duct section - base	1
2902480100332	Duct section - middle	5 (70 mm roof) 8 (100 mm roof)
2902480200252	Duct section - top (foam)	1
2902480100372	ADB installation bracket	2
2902480100182	ADB grille LH	1
2902480109240	ADB grille RH including red accent	1
2902480100242	ADB mesh filter and frame	2
2902482700092	ADB display assembly (PCB, connectors, thermistor, display housing and cover)	1
2902482500062	Kit of 2x LED light strips and harness with connector	1 kit (2 light strips)
2902480200232	Foam filter for air return grille	2
2902480100222	Air diffuser blade	2
2902480100392	Air diffuser blade adjuster handle (red)	2

Other spare parts may be available on request.