



Installation Instructions

Absorption Refrigerator for Recreation Vehicles

RMD 8501 RMD 8505
RMD 8551 RMD 8555



T.B. MBA 02/2009

Type C40 / 110
822 6114 - 00

N 1

English



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1.0 General

1.1 Introduction

On installation of the appliance, the technical and administrative regulations of the country in which the vehicle will first be used must be adhered to. Otherwise the refrigerator must be installed as described in these instructions. In Europe, for example, gas appliances, cable routing, installation of gas cylinders, as well as approval and checking for leaks must comply with **EN 1949** for liquid gas systems in vehicles

1.2 Guide to these installation instructions

Before you start installing the refrigerator, please read the installation instructions carefully.

These instructions provide you with the necessary guidance for the proper installation of your refrigerator. **Observe in particular the safety instructions.** Observation of the instructions and handling recommendations is important for dealing with the refrigerator safely and for protecting you from injury and the refrigerator from damage. You must understand what you have read before you carry out a task.

Keep these instructions in a safe place close to the refrigerator so they may be referred to at any time.

1.3 Copyright protection

The information, texts and illustrations in these instructions are copyright protected and are subject to industrial property rights.

No part of these instructions may be reproduced, copied or utilised in any other way without written authorisation by Dometic GmbH, Siegen.

1.4 Explanation of symbols used in this manual

Warning notices

Warning notices are identified by symbols. A supplementary text gives you an explanation of the degree of danger.

Observe these warning notices rigorously. You will thus protect yourself and other people from injury, and the appliance from damage.



DANGER!

DANGER indicates an imminent hazardous situation which, if not avoided, could result in death or serious injury.



WARNING!

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury



CAUTION!

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION!

CAUTION (used without the safety alert symbol) indicates a potentially hazardous situation which, if not avoided, may result in damage to the appliance.

Information



INFORMATION gives you supplementary and useful guidance when dealing with your refrigerator.

Environmental Tips



ENVIRONMENTAL TIPS gives you useful guidance for saving energy and disposal of the appliance.

1.5 Warranty

Warranty arrangements are in accordance with EC Directive 44/1999/CE and the normal conditions applicable for the country concerned. For warranty or other maintenance, please contact our customer services department. Any damage due to improper use is not covered by the warranty. The warranty does not cover any modifications to the appliance or the use of **non-original Dometic parts**. The warranty does not apply if the installation and operating instructions are not adhered to and no liability shall be entertained.


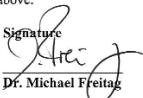
1.6 Limitation of liability

All information and guidance in these operating instructions were prepared after taking into consideration the applicable standards and regulations as well as the current state of the art. **Dometic** reserves the right to make changes at any time which are deemed to be in the interest of improving the product and safety.

Dometic will assume no liability for damage in the case of :

- non-observation of the operating instructions
- application not in accordance with the regulations or provisions
- use of non-original spare parts
- modifications and interferences to the appliance
- effect of environmental influences, such as
 - temperature fluctuations
 - humidity

1.7 Declaration of Conformity

	
DECLARATION OF CONFORMITY	
according to	
Low Voltage Directive 73/23/EEC and the Amendment to LVD 90/683/EEC, 2006/95/EC EMC Directive 89/336/EEC, 2004/108/EC Automotive Directive 72/245/EEC and the Amendment 95/54/EC, 2006/28/EC GAS Directive 90/396/EEC CE Marking Directive 93/68/EEC End-of-Life Vehicle Directive 2000/53/EC RoHS Directive 2002/95/EC	
Type of equipment Brand Name Type family Manufacturer's (Factory) name address telephone no telefax no	Absorption Refrigerator DOMETIC C 40/110 DOMETIC GmbH In der Steinwiese 16, D-57074 Siegen INT+49 - 271 692 0 INT+49 - 271 692 304
The following harmonized standards or technical specifications (designations) which comply with good engineering practice in safety matters in force within the EEA have been practiced:	
EN 60335-1;05, (IEC 60335-1; 4 ed., Am. 1, Am. 2), EN 60335-2-24;00 (IEC 60335-2-24; 6 ed., Am. 1) EN 61000-3-2;95, A1, A2, A14 EN 61000-3-3;95, A1, EN 55014-1;00, A1, A2 EN 55014-2;97, A1 EN 732;98 EN 50165;97+A1 EN 624;00 (I.S.C-Models) EN 30, -1;98 (Tectower-Models)	
The equipment conforms completely with the above stated harmonized standards or technical specifications.	
By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorized representative established within the EEA, that the equipment in question complies with the requirements stated above.	
Date 2009.01.07	Signature  Dr. Michael Freitag
	Position General Manager

2.0 Safety instructions

2.1 Application according to regulations

This refrigerator is designed for installation in recreation vehicles such as caravans or motorhomes. The appliance has been type-approval tested for this application in accordance with the EC Gas Directive.

The refrigerator is to be used solely for storing foodstuffs.

CAUTION!

The refrigerator must not be exposed to rain.

2.2 User's responsibility

Anyone operating the refrigerator must be familiar with the safe handling and understand the advice in these operating instructions.

2.3 Working upon and checking the refrigerator



WARNING!

Work on gas equipment, exhaust system and electrical facilities must be carried out by authorised personnel only. Substantial damage to property and/or injury to persons can arise through unprofessional procedures.



DANGER!



Never use an unshielded flame to check gas bearing parts and pipes for leakage!

There is a danger of fire or explosion..



WARNING!

Never open the absorber cooling unit! It is under high pressure.

There is a danger of injury!

2.4 Operating the refrigerator with gas

It is imperative that the operating pressure corresponds to the data specified on the rating plate of the appliance. Compare the operating pressure of the rating plate with the data specified on the pressure reducing valve of the liquid gas cylinder.

3.3 Technical data

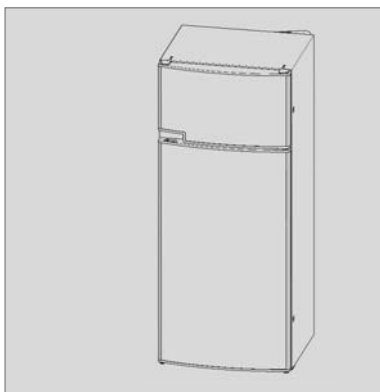


Fig. 2

Model	Dimensions H x W x D (mm) Depth incl. door	Gross capacity with freezer compartment		Rating details mains/battery	Consumption * electricity/gas over 24hrs	Net weight	Ignition Piezo	Automat
RMD 8501	1245x525x567	160 lit.	30 lit.	190 W / 170 W	ca.3,2 kWh / 380 g	40 kg		•
RMD 8505	1245x525x567	160 lit.	30 lit.	190 W / 170 W	ca.3,2 kWh / 380 g	40 kg		•
RMD 8551	1245x525x622	190 lit.	35 lit.	190 W / 170 W	ca.3,2 kWh / 380 g	41,5 kg		•
RMD 8555	1245x525x622	190 lit.	35 lit.	190 W / 170 W	ca.3,2 kWh / 380 g	41,5 kg		•

Subject to technical changes.

*Average consumption measured at an average ambient temperature of 25°C in pursuance of ISO Standard.



Dometic refrigerators are equipped for a connection pressure of **30 mbar**. For connection to a 50 mbar gas system, use **Truma VDR 50/30 medium pressure controller**.

4.0 Installation instructions

4.1 Installation



WARNING!

The appliance may be installed by authorized personnel only!

The unit and the exhaust duct system must be in principle installed so that it is accessible for maintenance work, can be easily installed and dismantled and removed from the vehicle without great effort.

Installation and connection of the appliance must comply with the latest technical regulations, as follows:

- The electrical installation must comply with national and local regulations.
- The gas installation must comply with national and local regulations.
- European Standards EN 1949
- European Standards EN 60335-1, EN 60335-2-24, EN 1648-1, EN 1648-2
- The appliance must be installed in such a way that it is shielded from excessive heat radiation.

Excessive heat impairs performance and raises the energy consumption of the refrigerator!



Deviations from these installation instructions without prior notification of Dometic result in Dometic GmbH's warranty obligations becoming void!

4.1.1 Side installation

If the appliance is installed on the same side of the vehicle as the entrance door, it is desirable that the door does not cover the refrigerator's vents. (Fig. 5, Clearance door/ventilation grille at least 25 mm). Otherwise ventilation could be impaired which causes a loss in cooling performance. Awnings are often placed at the door side of a caravan. This complicates evacuation of combustion gases and heat through the ventilation grilles (loss in cooling performance)!

(Fig. 5) The air vent grilles are blocked. There must be a distance between the door and the air vents of at least 25 mm!

If the door/grille distance is between 25 mm and 45 mm, we recommend installing a **Dometic ventilation kit (item no. 241 2985 - 00/0)** to achieve an optimal cooling performance in high ambient temperatures.

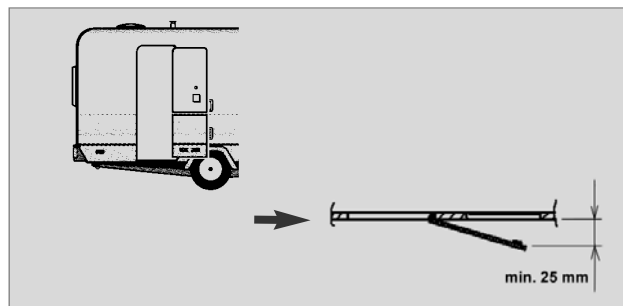


Fig. 3

(Fig. 6) The air vent grilles offer an unobstructed dissipation of heat and exhaust gas even when the door is opened.

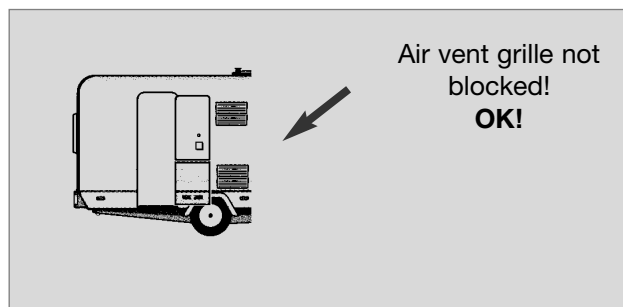


Fig. 4

4.1.2 Rear installation

Rear installation often causes an unfavourable installation arrangement, as ideal ventilation cannot always be assured (e.g. the lower ventilation grille is covered by the bumper or the rear lights of the vehicle!). The maximum cooling performance of the aggregate is actually not available.

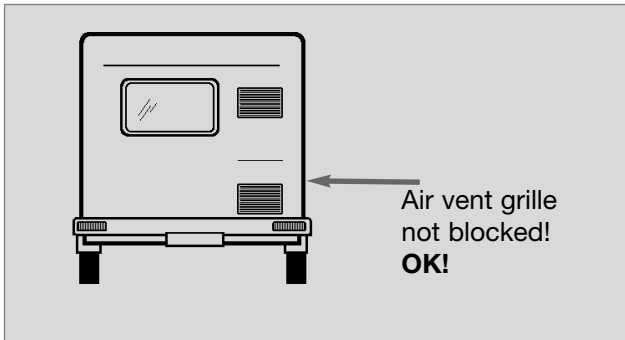


Fig. 5

Another unfavourable method of rear installation is to install the air intake and exhaust grilles (Fig. 9) at the side wall of the recreation vehicle. The air-heat recirculation is very restricted which means that heat exchangers (condenser, absorber) cannot be adequately cooled. The optional method of an additional air vent grille installed in the floor also exhibits an insufficient air flow duct.

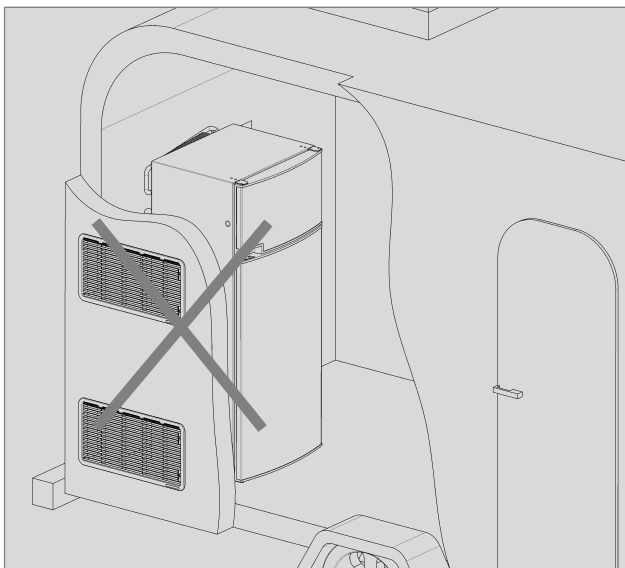


Fig. 6

CAUTION!

The maximum cooling performance is not available! Do not apply this installation method, as it does not provide proper ventilation! Please refer to the description in section 4.2.

4.1.3 Draught-proof installation

Refrigerators in motorhomes, caravans or other vehicles must be installed in a draught-proof manner (EN 1949). This means that the combustion air for the burner is not taken from the living space and that exhaust fumes are prevented from entering the living space.

Adequate sealing between the back of the refrigerator and the vehicle interior has to be provided.

Dometic strongly recommend using a flexible sealing for this purpose, in order to facilitate future removal or installation of the appliance during maintenance.



WARNING!

By no means use durable sealing compounds, fitting foam or similar material to realise draught-proof installation of the refrigerator! Do NOT use any easily inflammable materials for sealing (in particular silicon sealing compound or similar). Risk of fire! The device manufacturer's product liability and warranty shall lapse if such materials are used.

Dometic Refrigerators of RM8xxx Series feature a groove running all around outside and bottom side to facilitate the insertion of such flexible lip-ped seals (see next figures).

Dometic recommend mounting a strip with a heat deflector plate into the installation recess above the appliance (Fig. 8). This allows the ascending hot air to escape directly outside. This deflection plate must also be provided with a lipped seal.

That ensures that the refrigerator can easily be removed for maintenance or repair.

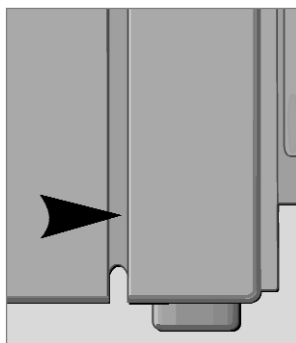


Fig. 7

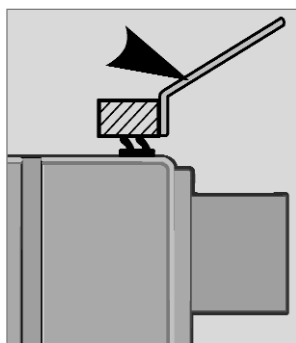


Fig. 8

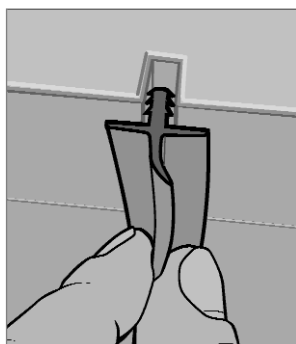


Fig. 9

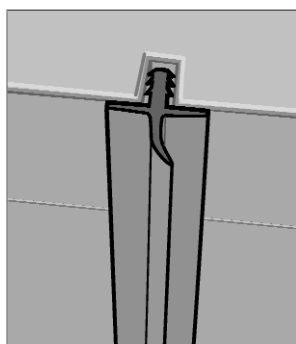


Fig. 10

The flexible sealing is pressed into the groove running around the housing. Press the side provided with the sealing knob firmly into the groove. Take care that the sealings uniformly about the housing.

The cavity in-between the outer vehicle wall and refrigerator is completely isolated from the vehicle interior. Intrusion of exhaust fumes into the living space is prevented. Fumes will escape through the upper ventilation grille to the outside. The draught-proof installation does not require a special exhaust gas duct to be used.



Deviations require the consent of the manufacturer!

4.2 Ventilation and air extraction of the refrigerator

A correct installation of the refrigerator is essential for its correct operation, as due to physical reasons heat builds up at the back of the appliance which must be allowed to escape into the open air.



In the event of high ambient temperatures, full performance of the cooling unit can only be achieved by means of adequate ventilation and extraction.

Ventilation is provided for the unit by means of two apertures in the caravan wall. Fresh air enters at the bottom, extracts the heat and exits through the upper vent grille (chimney effect). **The upper ventilation grille should be positioned as high as possible above the condenser (A). Install the lower ventilation grille at floor level of the vehicle**, allowing unburnt gas (heavier than air) to escape directly into the open air. Should this arrangement prove impossible, a ventilation aperture must be introduced by the manufacturer of the vehicle into the recess floor in order to avoid the accumulation of unburnt gas on the floor (Fig. 11,12).

4.2.1 Installation of roof exhaust R500 and lower ventilation grille LS300.

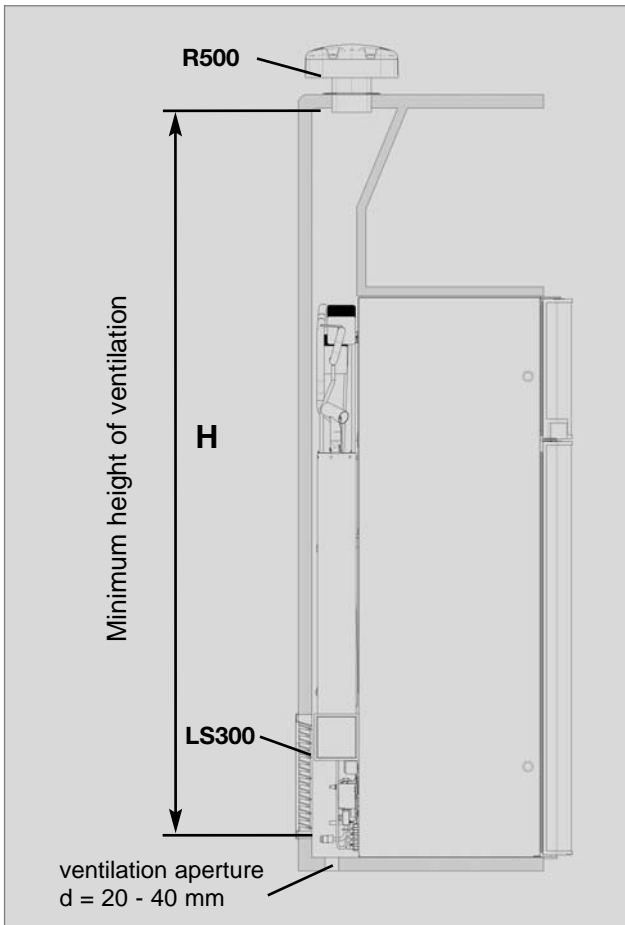


Fig. 11

4.2.2 Installation of lower and upper ventilation grilles LS300.

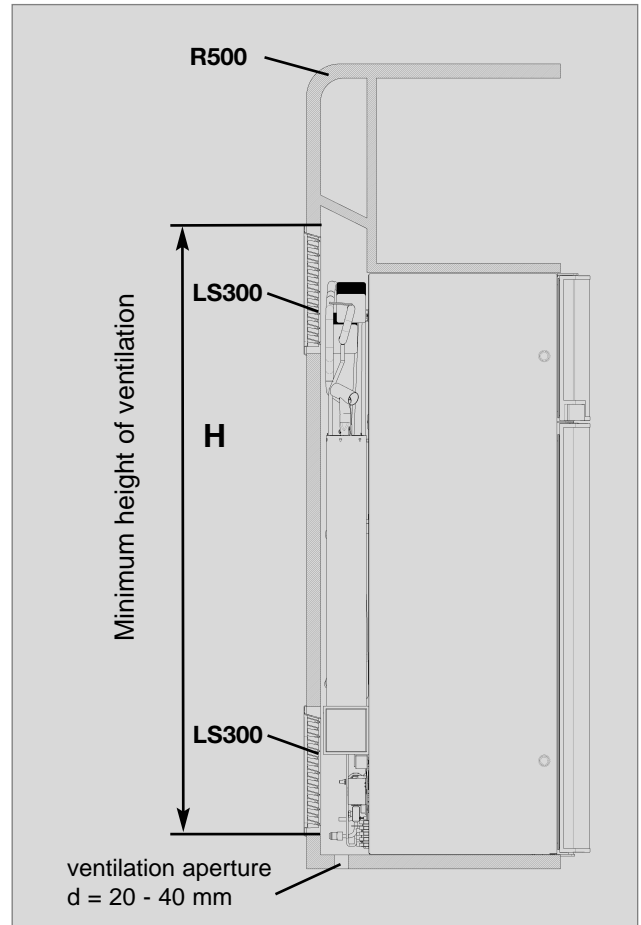


Fig. 12

Minimum height of ventilation (mm) H	
1. Roof exhaust R500 Lower vent grille LS300	☺☺☺
1250	
2. Upper vent grille and lower vent grille LS300	☺☺
1400	
3. Upper vent grille LS300 lower vent grille L205	☺
1400	

The ventilation grilles must have an open cross-section of at least 400 cm². This is achieved by using the Dometic LS300 absorber ventilation and air extraction system which has been tested and approved for this purpose.

4.3 Installing the ventilation system

4.3.1 Installing LS300

To install the ventilation grilles, cut two rectangles in the outer wall of the vehicle (for position of the cuts, see Fig. 11,12).).

- 1 Cut two rectangles in the outer wall of the vehicle.

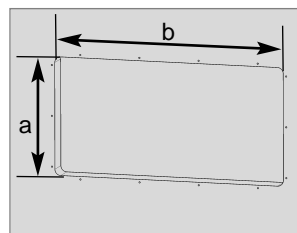


Fig. 13

- 2 Seal the mounting frame making it waterproof (does not apply for mounting frames with integral seal) and screw into position.

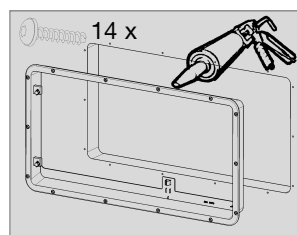


Fig. 14

- 3 Insert ventilation grille.

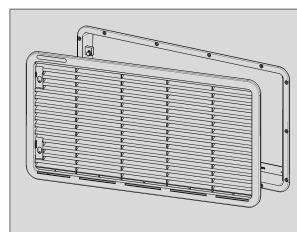


Fig. 15

- 4 Insert slider.

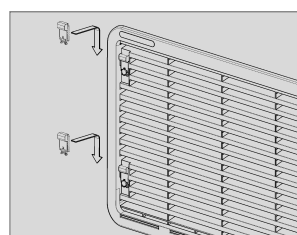


Fig. 16

- 5 Lock ventilation grille.

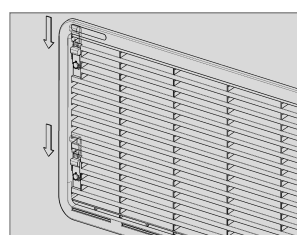


Fig. 17



Correct mounting of the lower ventilation grille facilitates access to the connections and functional parts during maintenance.

4.3.2 Installing roof exhaust R500

Measurements of roof exhaust R500

Length	Width	Height
595 mm	205 mm	150 mm
Roof cut out: 87mm X 507 mm		

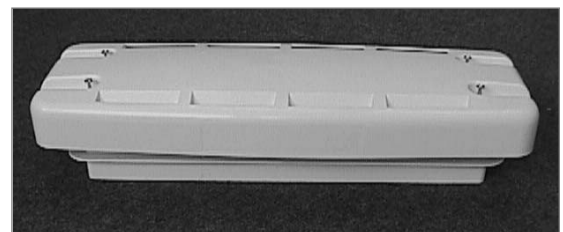


Fig. 18

- 1 Seal the installation bays and screw them to the vehicle roof.



Fig. 19

- 2 Place the hood in position and screw it to the installation bays.



Fig. 20

4.3.3 Installing L205 (without mosquito net)

To install the ventilation grille, cut a rectangle **width 451 mm x height 156 mm**, in the outer wall of the vehicle (for position of the cuts, see Fig. 11,12).

1
Seal the mounting frame making it waterproof (does not apply for mounting frames with integral seal).

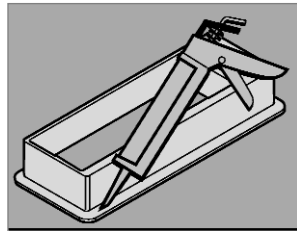


Fig. 21

2
Insert frame and screw into position.

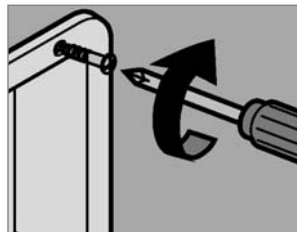


Fig. 22

3
Insert ventilation grille.

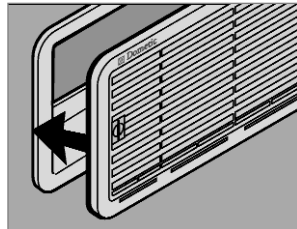


Fig. 23

4
Lock ventilation grille.

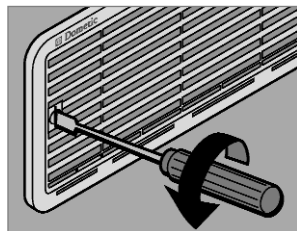


Fig. 24

5
Insert winter cover.

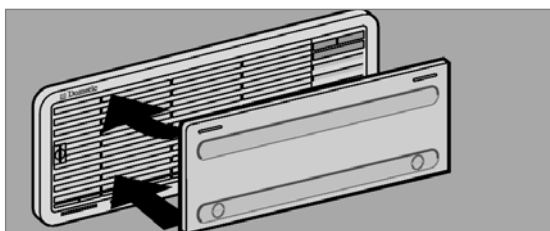


Fig. 25

4.3 Exhaust duct system

The exhaust gas duct system must be made in such a manner as to achieve a complete extraction of combustion products to the outside of living space. The flue gas is vented directly through the upper grille. Do not use any kind of aluminium flue pipe to lead the flue gas out. The T-piece (Fig. 26) must be treated towards the outer wall.

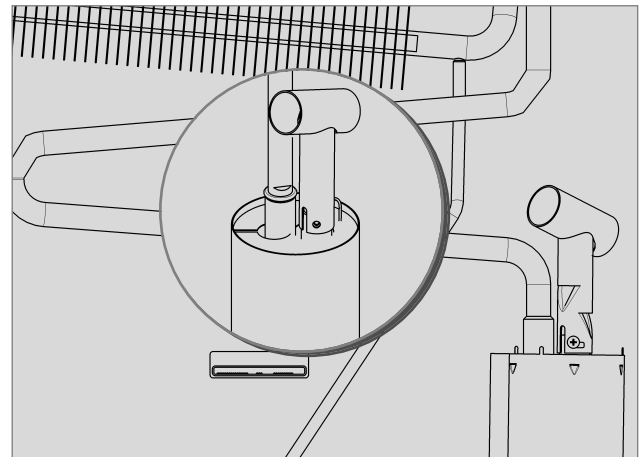


Fig. 26

CAUTION!

An installation other than described will reduce the cooling capacity and jeopardise the manufacturer's warranty/product liability.

4.5 Installation recess

The refrigerator must be installed draught-proof in a recess (also refer to Section "4.1.3"). The measurements of the recess are stated in the table below. Push the appliance far enough into the recess until the front edge of the refrigerator casing is aligned with the front of the recess. Allow a gap of 15-20 mm between the back wall of the recess and the refrigeration unit. The floor of the recess must be level, allowing the appliance to be pushed easily into its correct position. The floor must be substantial enough to bear the weight of the appliance. **Ensure that the refrigerator is installed level in the recess.**



4.5.1 Recess dimensions

Models

RMD 8501
RMD 8505
RMD 8551
RMD 8555

Height H	Width B	Depth T
1249 mm	529 mm	599 mm

4.6 Securing the refrigerator

In the sidewalls of the refrigerator, there are four plastic sleeves for securing the refrigerator. The sidewalls or strips attached for securing the refrigerator must be prepared to hold the screws firmly in place even when under increased load (while the vehicle is moving). Fastening screws and caps are supplied with the refrigerator.

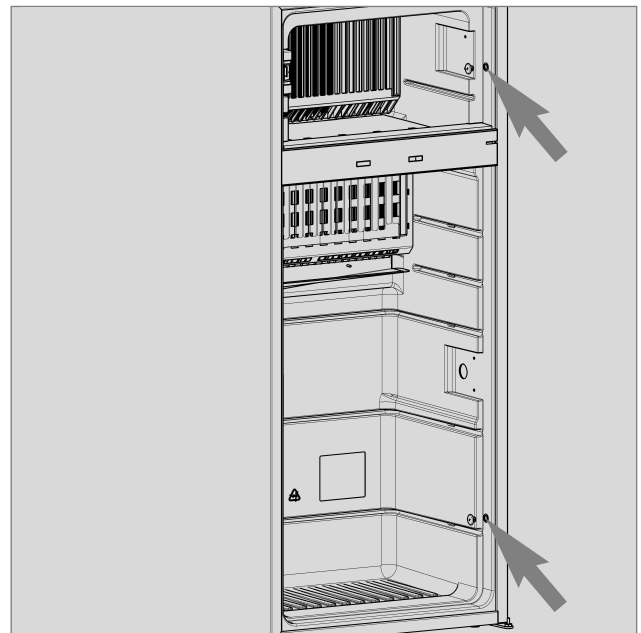


Fig. 27

CAUTION!

Always insert screws through the sleeves provided as otherwise components laid in foam, such as cables etc., could be damaged.

After the refrigerator is put in its final place, secure the screws into the wall of the recess. The screws must penetrate the casing of the refrigerator.

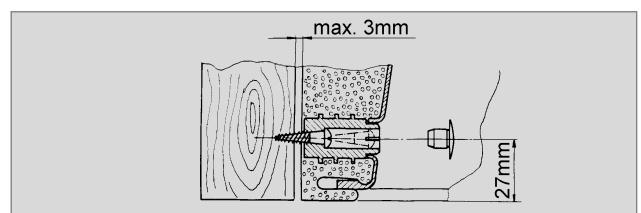


Fig. 28

4.7 Insert the decor panel

Decor panel with frame

- Remove the lateral ledge **1** from the door (ledge is attached, not screwed).
- Shift decor panel **2** away from the door and insert the new decor panel. Re-attach ledge **1**.

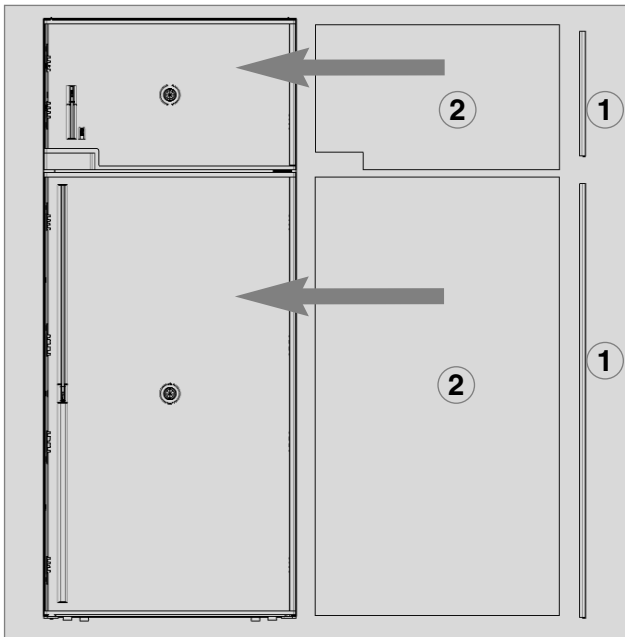


Fig. 29

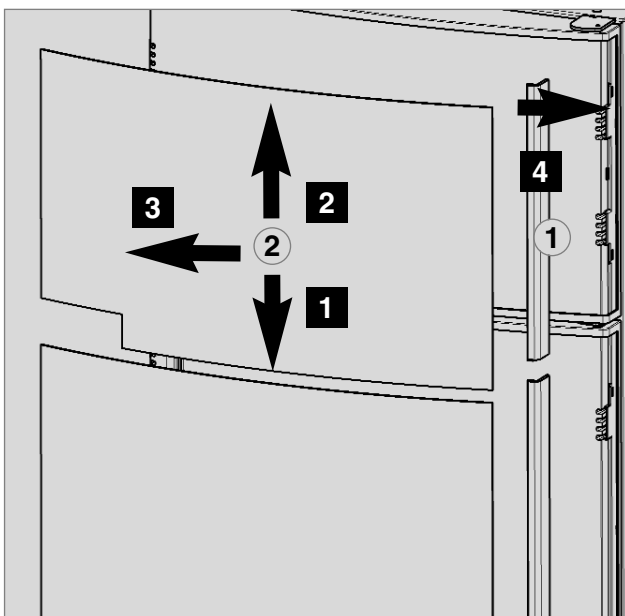


Fig. 30

CAUTION!

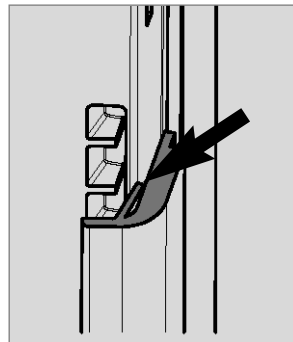


Fig. 31

wrong

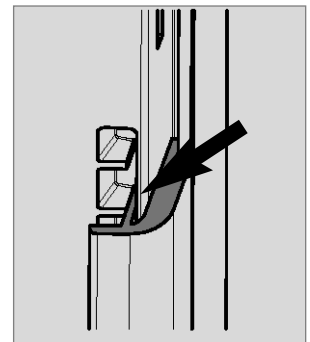


Fig. 32

right

Frameless decor panel

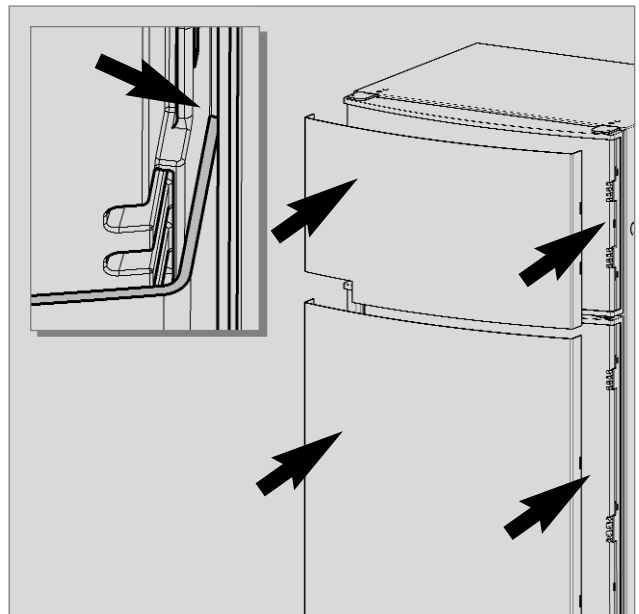


Fig. 33

Decor panel dimensions :

Upper door

Height	Width	Thickness
300 +/- 1 mm	507,5 +/- 1 mm	max. 1.7 mm

Lower door

Height	Width	Thickness
907,4 +/- 1 mm	507,5 +/- 1 mm	max. 1.7 mm

4.8 Gas installation



WARNING!

The gas connection shall be carried out by qualified personnel* only.

* Qualified personnel are accredited experts who are able, by virtue of their training and knowledge, to vouch for the correct implementation of the leakage test.

- Observe the regulations stated in section 4.1.
- This refrigerator is provided for installation within liquid gas equipment in compliance with EN1949 and must be run exclusively on liquid gas (propane, butane) (no natural gas, town gas).
- A fixed, pre-set pressure regulator complying with EN 12864 must be connected to the liquid gas cylinder.
- The pressure regulator must concur with the operating pressure specified on the rating plate of the appliance. The operating pressure corresponds to the standard pressure of the country of specification (EN 1949, EN 732).
- Only one connection pressure is permissible for any one vehicle! A plate showing the permanent, clearly legible notice must be displayed in full view at the point where the gas cylinder is installed.
- The gas connection to the appliance must be installed securely and free of stress using pipe connectors and must be securely connected to the vehicle (a hose connection is not permissible) (EN 1949).
- The gas connection to the appliance is effected by means of (Ermeto-) olive type fitting L8, DIN 2353-ST, complying with EN 1949.
- After professional installation, a leakage test as well as a flame test have to be carried out by qualified personnel* in conformity with EN 1949. A test certificate has to

be issued.

- The refrigerator must be equipped with a shut-off valve allowing to cut the supply line. Such a shut-off device must be readily accessible to the user.

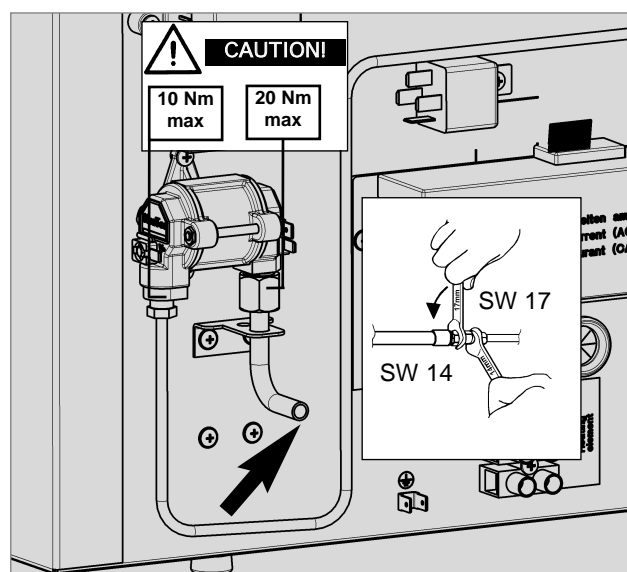


Fig.34



Dometic refrigerators of this series are prepared for a connection pressure of **30 mbar**. For connection to a 50 mbar gas system, use **Truma VDR 50/30** equipment admission pressure controller.

4.9 Electrical installation



WARNING!

The electrical installation shall be carried out by qualified personnel* only.

* Qualified personnel are accredited experts who are able, by virtue of their training and knowledge, to vouch for the correct implementation of the leakage test.

- The electrical installation must be in accordance with the national regulations of the respective countries.
- The connection cables must be routed in a way to prevent contact with hot components of the unit/burner or with sharp edges.
- Changes to the internal electrical installation or the connection of other electrical components (e.g. external fan) to the internal wiring of the appliance will render the e1/ CE admittance as well as any claims from warranty and product liability void!

4.9.1 Mains connection

- The power should be supplied by a properly grounded socket outlet or a grounded non-detachable connection. Where a socket outlet with mains supply is used, the outlet must be freely accessible.

Should the connection cable be damaged, have it replaced by Dometic Customer Services or by qualified personnel to avoid hazards.

We recommend leading the power supply via a board-side fuse protection.

4.9.2 Battery connection

The machine's 12V connection cable is connected (observing correct polarity) to a terminal strip. The wiring for the heating element (refer to A, B wiring diagram connections; connection cable white/red) must be direct and by the shortest possible route to the battery or electric generator.

Cable cross sections and cable lengths

Motorcaravan & Caravan (inside)

4 mm ² (RML = 6 mm ²)	< 6 m
6 mm ² (RML = 10 mm ²)	> 6 m

Caravan (outside)

min 2,5 mm² (EN1648-1)

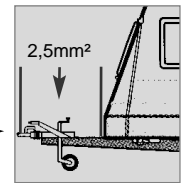


Fig. 35

CAUTION!

If the appliance is installed in a caravan the respective leads for the 12V+ and 12V- connections A/B and C/D must not be connected to each other on the caravan-side (EN 1648-1).

Provide a 16 A fuse to protect on-board 12 V circuit.

In order to ensure that the 12V power supply is shut off when stopping the engine (otherwise the battery would discharge within a few hours), perform the power supply to the heating element (cf. page 30, connection A/B in wiring diagram) in a way to have the 12V supply only live while the vehicle ignition is switched on.

The connection C/D (interior light, electronics, cable black / violet) must be permanently provided by a 12V DC power supply to be protected by a 2A fuse.

4.9.3 Terminal strip

Contacts :

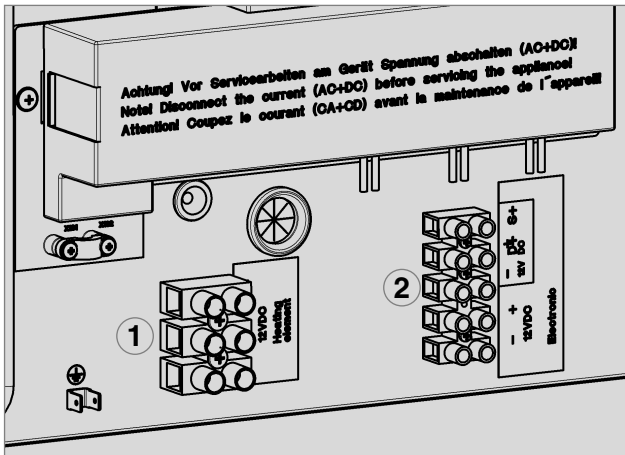


Fig. 36

- ① A = Ground heating element DC
B = Positive connection, heating element DC
- ② C = Ground electronics
D = Positive connection, electronics
D+ = Alternator signal
S+ = AES input signal from solar charge regulator

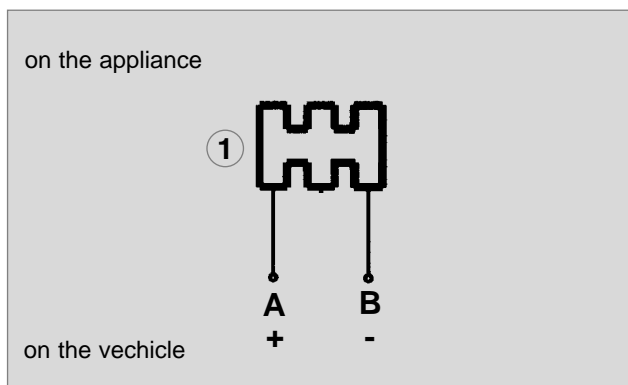


Abb. 37

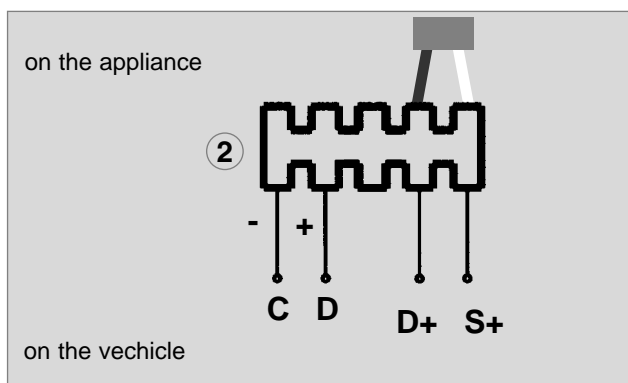


Abb. 38



For MES and AES it is compulsory to provide a permanent 12V DC supply at the terminals C/D (permanent voltage supply for functional electronics).

4.9.4 D+ and solar connection (only for AES models)

D+ – connection:

In >Automatic Mode< the AES electronic system automatically selects the most efficient energy supply. In automatic mode the electronic system uses the D+ signal (dynamo +) of the alternator to detect 12V DC. 12V DC operation is selected only while the engine is running in order to prevent battery discharge.

S+ – connection:

12V DC energy can be optionally achieved by mounting solar equipment to the vehicle. The solar power equipment must be provided with a solar charging controller with AES output (adequate charging controllers available in selected stores). The "S+ connection (Solar +) must be connected to the respective terminal of the solar charging controller (AES output). The electronic system uses the S+ signal of the solar charging controller to detect solar 12V DC.

Cable cross-sectional areas:

There are no particularly high current flows via the D+ and S+ connection; therefore no particularly large cross-section is required for these connections (approx. 1mm² is sufficient).

4.9.5 Wiring diagram

Wiring diagram RMD8xx1 :

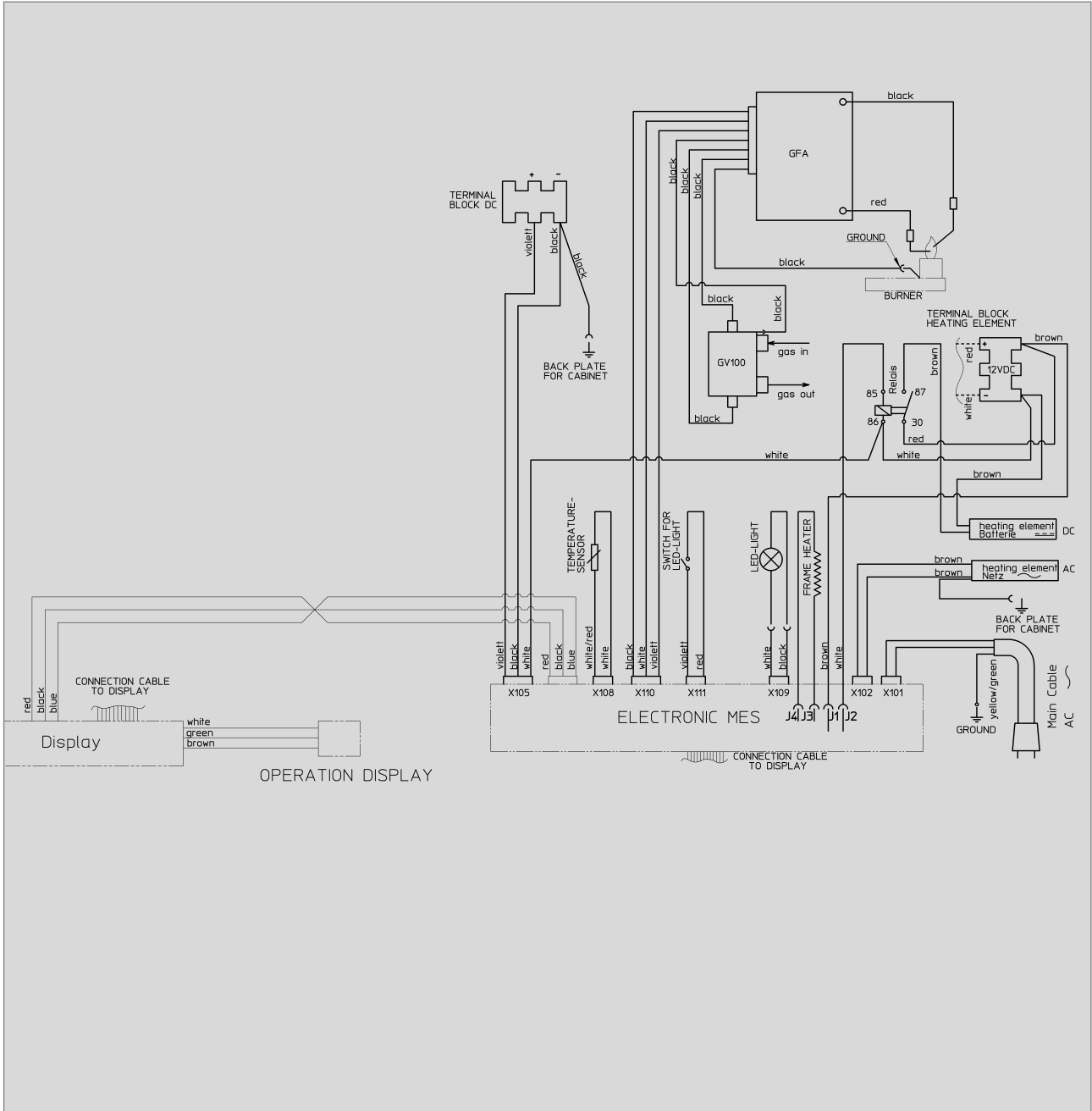


Fig. 39



For MES and AES it is compulsory to provide a permanent 12V DC supply at the terminals C/D (permanent voltage supply for functional electronics).

Wiring diagram RMD8xx5 :

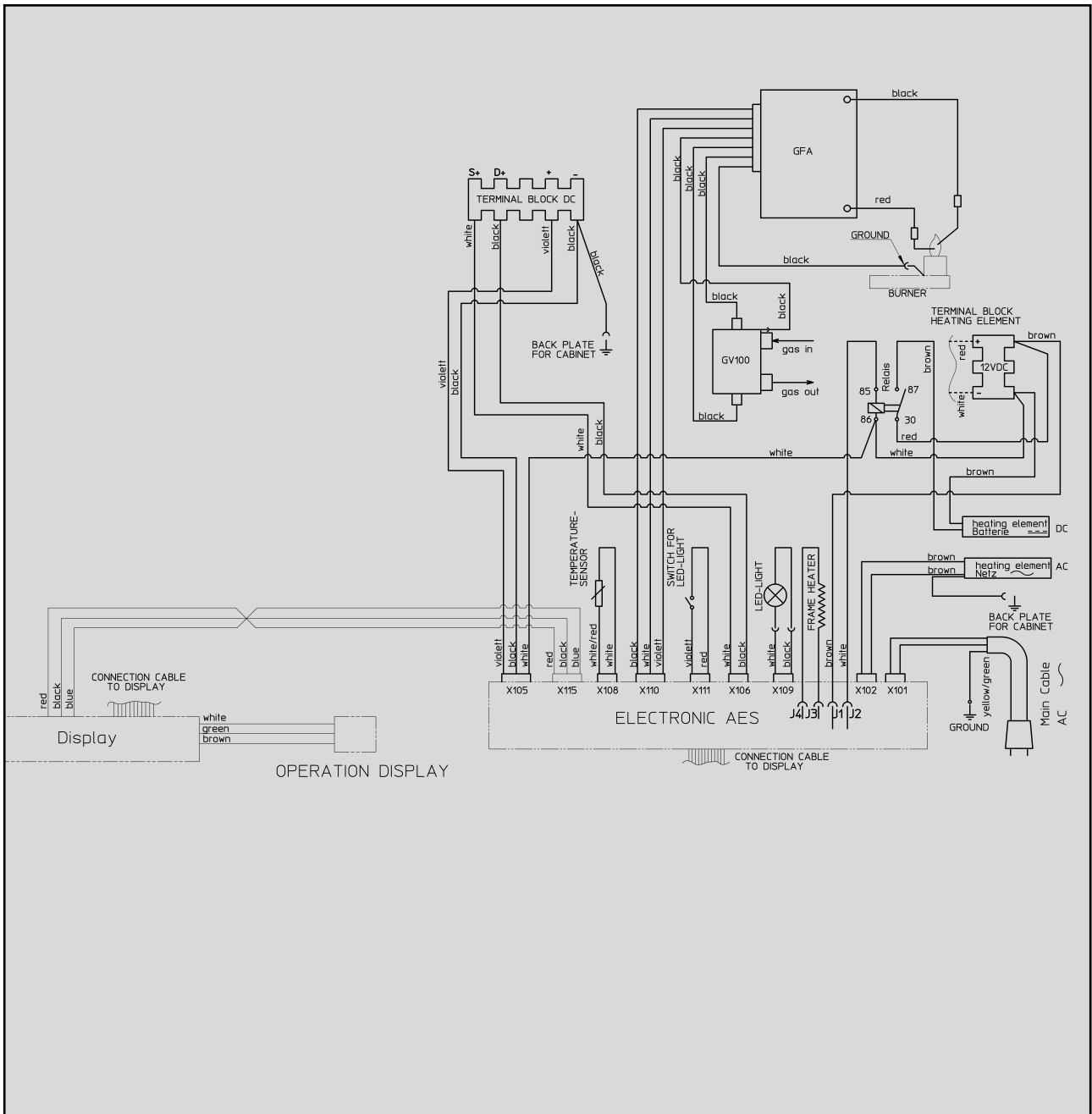


Fig. 40



For MES and AES it is compulsory to provide a permanent 12V DC supply at the terminals C/D (permanent voltage supply for functional electronics).



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