

# ↔ DOMETIC

# ENERGY & LIGHTING

# COOLPOWER



MPS50

EN

## Mains rectifier

Installation and Operating Manual

© 2020 Dometic Group. The visual appearance of the contents of this manual is protected by copyright and design law. The underlying technical design and the products contained herein may be protected by design, patent or be patent pending. The trademarks mentioned in this manual belong to Dometic Sweden AB. All rights are reserved.

**Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.**

## Contents

1	Explanation of symbols . . . . .	3
2	General safety instructions . . . . .	4
3	Scope of delivery . . . . .	7
4	Proper use . . . . .	7
5	Technical description . . . . .	8
6	Mounting the mains rectifier. . . . .	9
7	Using the mains rectifier . . . . .	10
8	Maintaining and cleaning the mains rectifier . . . . .	11
9	Warranty . . . . .	12
9	Warranty . . . . .	12
11	Technical data . . . . .	13

## 1 Explanation of symbols



### **DANGER!**

**Safety instruction:** Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



### **WARNING!**

**Safety instruction:** Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



### **CAUTION!**

**Safety instruction:** Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

**NOTICE!**

Indicates a situation that, if not avoided, can result in property damage.

## 2 General safety instructions

The manufacturer accepts no liability for damage in the following cases:

- Faulty assembly or connection
- Damage to the product resulting from mechanical influences and incorrect connection voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

Note the following basic safety information when using electrical devices to protect against:

- Electric shock
- Fire hazards
- Injury

### 2.1 General safety

**DANGER!**

- In the event of fire, use a fire extinguisher which is suitable for electrical devices.

**WARNING!**

- Only use the device as intended.
- Ensure that the red and black terminals **never** come into contact.
- Disconnect the device from the mains:
  - Before cleaning and maintenance
  - After use
  - Before changing a fuse
- If you disassemble the device:
  - Detach all connections
  - Make sure that no voltage is present at any of the inputs and outputs

- The device may not be used if the device itself or the connection cable are visibly damaged.
- If the supply cord of this device is damaged, it shall be replaced by a qualified person.
- This device may only be repaired by qualified personnel. Inadequate repairs may cause serious hazards.
- This device can be used by children aged 8 years or over, as well as by persons with diminished physical, sensory or mental capacities or a lack of experience and/or knowledge, providing they are supervised or have been taught how to use the device safely and are aware of the resulting risks.
- Cleaning and user maintenance shall not be made by children without supervision.
- **Electrical devices are not toys.**  
Always keep and use the appliance out of the reach of children.
- Children must be supervised to ensure that they do not play with the device.

**NOTICE!**

- Before start-up, check that the voltage specification on the type plate is the same as that of the power supply.
- Ensure that other objects **cannot** cause a short circuit at the contacts of the device.
- Never pull the plug out of the socket by the connection cable.
- Store the device in a dry and cool place.

## 2.2 Safety when installing the device

**DANGER!**

- Never mount the device anywhere where there is a risk of gas or dust explosion.

**CAUTION!**

- Ensure that the device is standing firmly.  
The device must be set up and fastened in such a way that it cannot tip over or fall down.

**NOTICE!**

- Do not expose the device to a heat source (such as direct sunlight or heating). Avoid additional heating of the device in this way.

- Set up the device in a dry location where it is protected against splashing water.

## 2.3 Safety when connecting the device electronically



### **DANGER! Danger of electrocution**

- **For installation on boats:**

If electrical devices are incorrectly installed on boats, corrosion damage might occur. Have the device installed by a specialist (marine) electrician.

- If you are working on electrical systems, ensure that there is somebody close at hand who can help you in emergencies.



### **WARNING!**

- Always use sockets which are grounded and secured by residual current circuit breakers.
- Make sure that the lead has a sufficient cross-section.
- Lay the cables so that they cannot be damaged by the doors or the bonnet.  
Crushed cables can lead to serious injury.



### **CAUTION!**

- Lay the cables so that they cannot be tripped over or damaged.



### **NOTICE!**

- Use ductwork or cable ducts if it is necessary to lay cables through metal panels or other panels with sharp edges.
- Do **not** lay the 230 V mains cable and the 12 V DC cable in the same duct.
- Do **not** lay the cable so that it is loose or heavily kinked.
- Fasten the cables securely.
- Do not pull on the cables.

## 2.4 Operating the device safely



### **DANGER! Danger of electrocution**

- Do not touch exposed cables with your bare hands. This applies especially when operating the device from the AC mains.

- To be able to disconnect the device quickly from the mains, the socket must be close to the device and be easily accessible.

**WARNING!**

- Only use the device in closed, well-ventilated rooms.
- Do **not** operate the device in systems with lead acid batteries. These batteries give off explosive hydrogen gas that can be ignited by sparks on electrical connections.

**CAUTION!**

- Do **not** operate the device
  - In salty, wet or damp environments
  - In the vicinity of corrosive fumes
  - In the vicinity of combustible materials
  - In areas where there is a danger of explosions.
- Before starting the device, ensure that the power supply line and the plug are dry.
- Always disconnect the power supply when working on the device.
- Please observe that parts of the device may still conduct voltage even if the fuse has blown.
- Do not disconnect any cables when the device is still in use.

**NOTICE!**

- Make sure the air inlets and outlets of the device are not covered.
- Ensure good ventilation.

### 3 Scope of delivery

- Mains rectifier
- Operating manual

### 4 Proper use

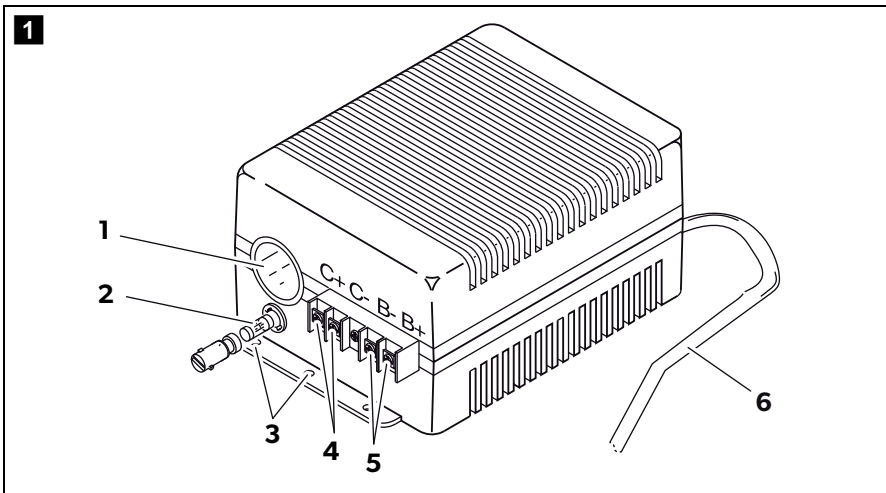
The MPS 50 mains rectifier is for operating coolers and refrigerators with BDF 50 compressors at 110 – 240 V~.

## 5 Technical description

The mains rectifier can operate all coolers and refrigerators with BDF 50 compressors at 110 – 240 V~ . With a 110 – 240 V~ mains connection, the rectifier automatically switches from battery to mains operation.

When disconnected from the 110 – 240 V~ mains supply, the rectifier automatically switches back to battery operation. Mains operation via the rectifier always takes priority over battery operation.

### 5.1 Control elements



Item	Explanation
1	12/24 V socket
2	Glass fuse (250 V, 12 A, slow-blow)
3	Fastening holes
4	Compressor output terminals
5	Battery input terminals
6	Mains cable

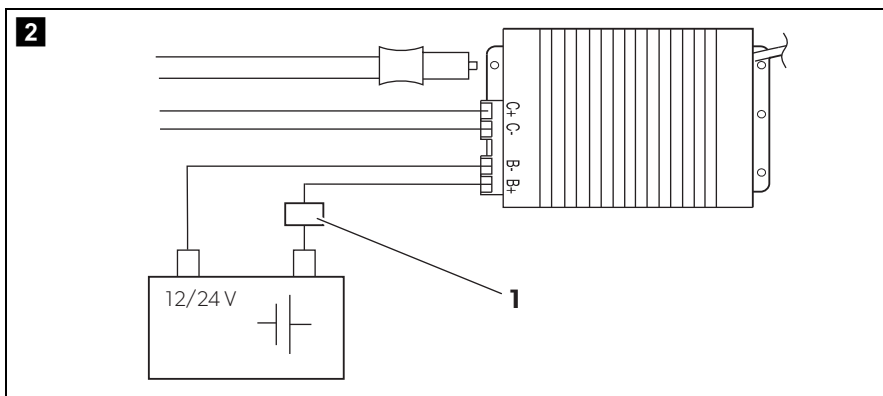


## 6 Mounting the mains rectifier

If you wish to mount the mains rectifier in a fixed position, please observe the following mounting instructions:

- Do **not** mount the device
  - In wet or damp environments
  - In the vicinity of combustible materials
  - In areas where there is a danger of explosions
- The place of installation must be well-ventilated. A ventilation system which is at least equivalent to the air openings in the device must be present for installations in closed housings.
- The air intake on the underside or the air outlet on the back of the device must remain clear.
- The installation surface must be level and sufficiently sturdy.
- Secure the mains rectifier with screws through the fastening holes at the front and the back of the device (fig. **1** 3, page 8).

## 7 Using the mains rectifier



### WARNING!

Do not reverse the polarity. If the poles are reversed device may overheat and be damaged.



### NOTICE!

Replace defective fuses with new ones of the same rating (12 A slow-blow).



### WARNING!

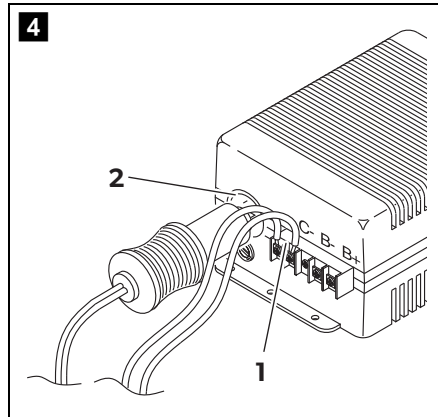
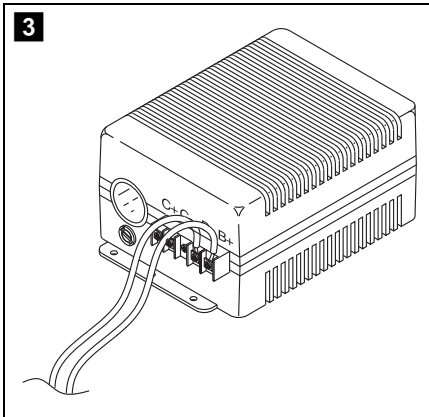
Ensure that the battery's positive supply line is secured with a fuse (fig. **2** 1, page 10) of the following value:

- at 12 V $\overline{=}$ : 15 A
- at 24 V $\overline{=}$ : 7.5 A

The fuse must be installed as close to the battery as possible.

To avoid drops in voltage and therefore performance, keep the cable route as short as possible and only disconnect it when necessary.

The cables between mains rectifier and compressor must not exceed 1.5 m and must have a cross section of at least 2.5 mm<sup>2</sup>.



- Fit wire sleeves to the ends of wires which you wish to connect to the mains rectifier.
- Connect the battery using the B+ and B– terminals on the front plate (fig. **3**, page 11).
- Connect the BDF 50 compressor
  - using the C+ and C– terminals (fig. **4** 1, page 11) or
  - using the socket on the front plate (fig. **4** 2, page 11).

## 8 Maintaining and cleaning the mains rectifier



### **WARNING! Electrocutation hazard**

Always disconnect the mains plug before you clean and service the device.



### **NOTICE! Damage hazard**

Never clean the device under running water or in dish water. Do not use abrasive cleaning agents or hard objects during cleaning as these can damage the device.

- Occasionally clean the device with a damp cloth.

## 9 Warranty

If the product does not work as it should, please contact your retailer or the manufacturer's branch in your country (see [dometic.com/dealer](http://dometic.com/dealer)). The warranty applicable to your product is 1 year(s).

For repair and warranty processing, please include the following documents when you send in the device:

- A copy of the receipt with purchasing date
- A reason for the claim or description of the fault

### Australia only

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

### New Zealand only

This warranty policy is subject to the conditions and guarantees which are mandatory as implied by the Consumer Guarantees Act 1993(NZ).


## 10 Disposal

- Place the packaging material in the appropriate recycling waste bins wherever possible.



If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

# 11 Technical data

	<b>CoolPower MPS50</b>
Reference number:	9109002476
Rated input voltage:	110 – 240 V~, 50/60 Hz
Input voltage range:	100 – 250 V~
Input current:	3 A
Rated output voltage:	27,0 V===
Rated output current:	6 A
Peak output current:	18 A
Constant output power:	150 W
Operating temperature range:	0 °C to +40 °C
Fuse:	12 A slow-blow
Dimensions (W x H x D):	120 x 70 x 200 mm
Weight:	1.0 kg
Testing/certification:	 5375

## Battery operation

Input voltage:	12/24 V===
Output voltage:	12/24 V===
Input/output current:	12/6 A





Mobile living made easy.



---

**dometic.com**

---

**YOUR LOCAL  
DEALER**

**[dometic.com/dealer](https://dometic.com/dealer)**

**YOUR LOCAL  
SUPPORT**

**[dometic.com/contact](https://dometic.com/contact)**

**YOUR LOCAL  
SALES OFFICE**

**[dometic.com/sales-offices](https://dometic.com/sales-offices)**

---

A complete list of Dometic companies, which comprise the Dometic Group, can be found in the public filings of:  
**DOMETIC GROUP AB** Hemvärnsgatan 15 SE-17154 Solna Sweden