

Blue Melon
BluePower
BM1101
BM1102
BM1103

Blue Melon v.o.f.

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Chapter 1

Introduction

Dear customer, congratulations on your purchase of a BluePower device. Use this manual as indicated below:

- First read the important **safety regulations** in chapter (2)
- Chapter 3 describes how the device should be setup and connected.
- If you have problems refer to Appendix 6 for possible solutions.
- Technical specifications can be found in 4.

1.0.1 Product contents

Verify that the following items have been included in the product delivery. When you find that one of the mentioned items is missing, please contact Blue Melon.

Package should contain:

- BluePower BM1101, BM1102, BM1103 depending on your purchase.
- power cable. To connect the BluePower with the mains.

1.0.2 Contacting Blue Melon

If you still have questions or problems operating your BluePower after reading the manual you can contact Blue Melon. Before contacting us please have a look at the Frequently Asked Questions section on our website "www.bluemelon.org".

www.BlueMelon.org

e-mail: Support@BlueMelon.nl

telnr: (+31)(0)594-213462

fax: (+31)(0)594-213674

Postal address: Postbus 11, 9843 ZG Grijpskerk, The Netherlands.

Chapter 2

Safety Regulations

WARNING!

Chance of electrical shocks

At all times one should observe the basic safety regulations for the use of this product. This reduces the chance of damage or injury through fire or an electrical shock.

1. Carefully read all of the instructions in this manual.
2. Exclusively use Blue Melon's power cable BH5102/BM5107 for connecting the BluePower to the mains.
3. The BluePower is a class 1 device, the device therefore meets the safety regulations specified by NEN3544. The regulations state that you must use a grounded mains connection. The same regulations are valid for a PC. If the BluePower is used in combination with a PC and BlueStep, the PC should be connected to ground as well.
4. Never touch the BluePower's port terminals or the terminals of the power supply cable. Immediately replace damaged cables.
5. Never install the wiring during a thunderstorm.
6. Please observe all warnings placed on the device.
7. Remove all of the product's plugs before cleaning the device.
8. Never use or install this product in a wet environment or when you are wet yourself.

9. The ambient temperature of the product ought to be between 5 °C and 35 °C.
10. Safely place the product on a solid underground or place it in a 19 inch rack.
11. Install the product in a safe place where no one may tread on the wires or trip over them and where the power supply cable cannot be damaged.
12. Do not cover the ventilation gaps.
13. Never place the product near devices which may cause electro magnetic interference.
14. Do not use the device when it shows any signs of possible damage.
15. Consult [Appendix 6](#) ("Problem Solving")
16. Consult acknowledged technicians for all maintenance issues.

Chapter 3

Installation

3.1 Summary of features

The BlueStep BM1101, BM1102, BM1103 provides two voltages. A maximum of 35V and 12V is supplied as Voltage A and B respectively. Voltage A can be use a powersupply to for example drive stepper motors. Voltage B can be used to power logic circuits.

The Power supplies you find in stores, which produce similar voltages, are mostly of the "switching powersupply" type. Although switching power supplies are efficient the have a disadvantage when they are used to power devices which require highly variable currents. A switching power supply can swith too slow to meet the current requirements. An example of a situation where this can be a problem is when powering stepper motors. The BluePower device is therefore built as a non switching supply. To be able to support high peak currents large buffers have been placed in the device as well.

3.2 Connections

3.2.1 Front panel connectors

Figure 3.1 offers a front view of the BluePower. The numbers relate to the following:

- 1 On/off switch.

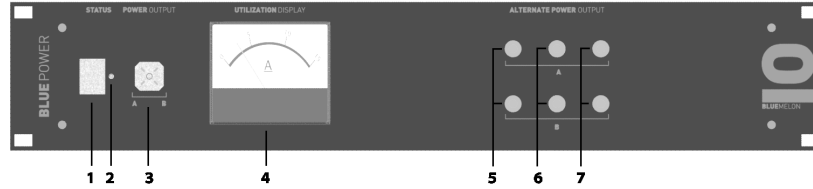


Figure 3.1: Front view of the BluePower BM1101, BM1102, BM1103.

- 2 LED status lamp.
- 3 Power supply voltage out connector.
- 4 Current utilization display
- 5 Banana connectors power out, ports A-, B-
- 6 Banana connectors power out, ports A ground, B ground
- 7 Banana connectors power out, ports A+, B+

3.2.2 Connecting the device

Follow these steps to connect the device:

1. Make sure that the device has been switched off by putting the on/off switch in "off" modus.
2. To power the external device, either choose to connect port 3 or ports 5, 6 and 7:
 - (a) connect port 3 with the device you want to power. Use a Blue Melon BM5113 cable for the connection, or
 - (b) use standard banana plugs to connect the external device. Ports A5,A6,A7 provide the high voltage output (35V). **Check the cover label for precise ratings.** Ports B5,B6,B7 provide logic support voltage of 12V.
3. Lastly you connect the 230V connector on the backside of the device with a grounded mains connection. **Important: never use a mains contact without connected ground pins. If you use a normal mains connection your guarantee will be void as a dangerous situation will arise.**

3.3 Replacing the fuse

To replace the device's fuse you first remove all cables and connections. Next you remove the cover from the 230V connector at the backside of the BluePower by pulling it outward. You can then remove the fuse.

Warning: never replace the fuse with a fuse for higher currents!

Replace the fuse with one with exact the same specifications, see appendix [4](#).

Verify that no cable has been damaged. Replace damaged cables immediately. After replacing the fuse and possible damaged cables you turn on the BluePower with the BluePower **only** connected to the mains. If the fuse melts again the device is probably defective. Contact Blue Melon in this case. **Warning: it is dangerous to use the device without a fuse or with a fuse of other specifications!** If the new fuse seems in order you turn off the power supply and reconnect all devices. Afterwards again turn on the BluePower. If the fuse melts there is a chance that the problem lies in one of the connected devices. In the case of connected devices which were produced by Blue Melon you can contact us.

Chapter 4

Technical Specifications

In	230V, 50 Hz.
Out 1	33V (+/- 6%), Rimple 1: 1,3V @ 3A
	100W (100VA) (BM1101)
	200W (200VA) (BM1102)
	300W (300VA) (BM1103)
Out 2	11V (+/- 6%) , Current max. 500mA, Rimple 0.5V @ 500mA
Display	Analog current utilization
Fuse	230V, 1A

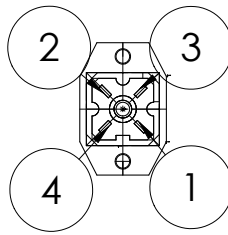


Figure 5.1: **Power supply** connector.

Chapter 5

Connector pin layout and dimensions

Pin 1	0V
Pin 2	+35V (max)
Pin 3	+12V
Pin 4	0V

Table 5.1: Pin layout **Power supply** connector.

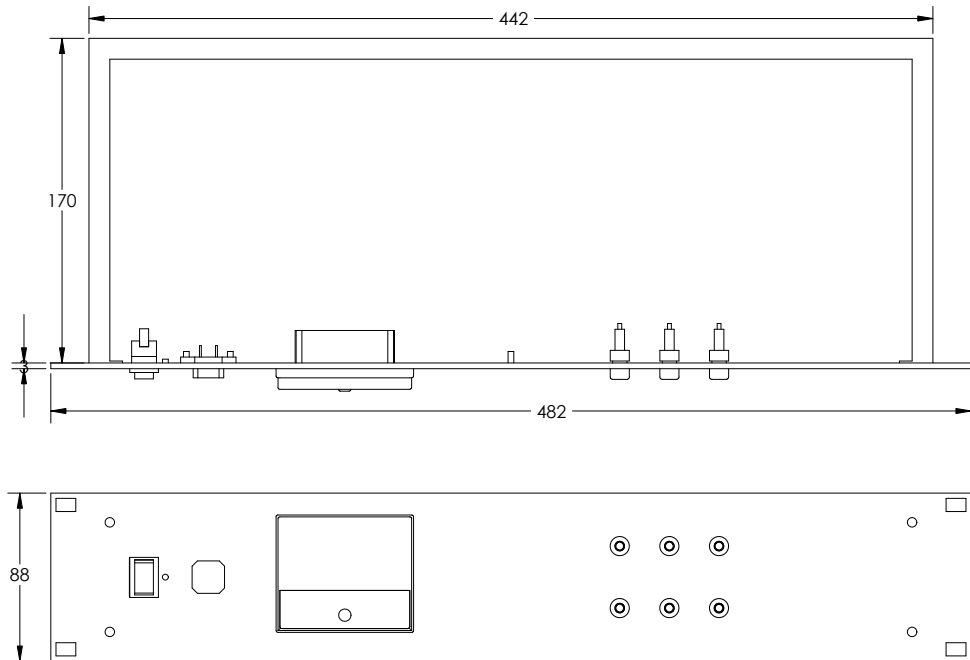


Figure 5.2: BluePower dimensions (in millimeters).



Figure 5.3: **Front view** BluePower.

Chapter 6

Problem solving

6.1 If I turn off the device, the status LED is not switched off.

In this case the device is actually turned off, however there is no connected load. The BluePower contains high capacity buffers to support peak currents which are needed to for example drive motors. When you turn off the device its connection with connected appliances is severed, which results in a non existing load. The BluePower's buffers (consisting of large capacitors) will keep their charge for some while. The led will stay lit until the energy stored in the buffers is used up. This can take upto 5 minutes. By temporarily switching on a connected external device you quickly drain the BluePower's buffers.

6.2 When I turn on the device the status LED is not lit.

If the led does not switch on check that:

1. the device is connected to a grounded mains power supply.
2. the power cord is connected to the 230V connector at the backside of the BluePower.
3. the fuse is in order. Replacing the fuse is described in section [3.3!](#)
4. the power switch is switched to '1'.

6.3 The status LED is switch on, however my BluePower powered external devices are not working.

Verify that:

1. in case of a connected BlueStep, the power supply cable between the BluePower and BlueStep is correctly connected. Is the screw fastened in the plug?
2. the power switch is switched to '1'.
3. all connected cables are undamaged. Replace damaged cables immediately!
4. if you have soldered the cable yourself that it is not defective.

If you could not solve the problems after reading the above we refer to the manuals of the devices connected to the BluePower.