velleman LABPS3005NDC Lab Power Supply with LED Display User Manual

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Contents

Introduction

To all residents of the European Union
Important environmental information about this product

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.
If in doubt, contact your local waste disposal authorities.
Thank you for choosing Velleman! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

Safety Instructions

	Keep this device away from children and unauthorized users.
	Indoor use only. Keep this device away from rain, moisture, splashing and dripping liquids. Never put objects filled with liquids on top of or close to the device.
	DO NOT disassemble or open the cover under any circumstances. Touching live wires can cause life-threatening electroshocks. There are no user-serviceable parts inside the device. Refer to an authorized dealer for service and/or spare parts. Always connect the device to an earthed power socket.
	Caution: device heats up during use. Make sure the ventilation openings are clear at all ti mes. For sufficient air circulation, leave at least 1” (± 2.5 cm) in front of the openings. Plac e the device on a flat, heat-resistant surface; do not place the device on carpets, fabrics…
	Always disconnect mains power when the device is not in use or when servicing or mainte nance activities are performed. Handle the power cord by the plug only.
	Keep this device away from dust and extreme temperatures.
	Protect this device from shocks and abuse. Avoid brute force when operating the device.
	Do not use the device when damage to housing or cables is noticed. Do not attempt to ser vice the device yourself but contact an authorized dealer.

General Guidelines

Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.

- Familiarise yourself with the functions of the device before actually using it.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorized way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Keep this manual for future reference.
- The device enjoys optimal protection thanks to the short-circuit protection and the current-limiting point. The power loss in case of a short circuit is limited thanks to the protection circuit that controls the power loss of the transistors in the power supply. This feature keeps the device from being damaged. The device will automatically go into the current-limiting mode, which means that the current-limiting point (max. ± 12 A) is installed. Nevertheless, the short circuit should be repaired as soon as possible in order to prevent wear and unnecessary power consumption.
- The output will be cut off if a short circuit occurs between the positive and the negative output terminal, which prevents power loss. The device will resume normal operation when the problem has been solved.
- This device is a large power source. The device should be well-ventilated when working at max. power in order to avoid overheating. Keep in mind that the surface of the heat sink is too hot to touch when the device is being

used at max. power.

- Improper operation of the device and an excessive ambient temperature may cause certain internal components to fail. When this happens, the actual output voltage may exceed the rated output voltage. Proceed with caution when using this device and avoid unnecessary damage to the load.

Features

- dual LED display for voltage and current
- coarse and fine adjustments of voltage and current
- voltage or current-limiting
- output connectors: insulated safety plugs
- low noise temperature-controlled fan
- 4 digit display
- setting lock function
- constant voltage / constant current
- 10 mV / 1 mA setting resolution
- protection modes:
  o fuse 3.15 A / 250 V
  o over-current protection
  o over-temperature protection (95 °C)
- fuse-protected

Overview

Refer to the illustrations on page 2 of this manual.

1	current indication	5	grounding terminal
2	current adjustment knob	6	the output terminal (+)
3	power switch	7	voltage adjustment knob
4	the output terminal (-)	8	voltage indication

Operation

6.1 Introduction
The device is a highly accurate, DC-regulated power supply with an adjustable output. This output can be used for constant voltage (C.V.) and constant current (C.C.).
The output voltage can be adjusted between 0 V and 30 V when the device is in the constant voltage mode or C.V.-mode. The current-limiting point (max. ± 5 A) can also be set arbitrarily in this mode.
The output current can be adjusted continuously between 0 and 5 A in the constant current mode.
The output current and voltage are indicated through LED displays.
6.2 Using the device as a C.V. source

1. Switch on the device.
2. Turn the current adjustment knob fully clockwise to the maximum.
3. Turn the voltage adjustment knob to obtain a voltage that is close to the desired value. Use the fine-tuned knob

if desired (where applicable). The C.V. indicator lights on the display.

6.3 Using the current-limiting adjustment in C.V. mode

1. Switch on the device.
2. Turn both the current adjustment knobs fully anticlockwise to the minimum and the voltage adjustment knobs fully clockwise to the maximum.
3. Short-circuit the output terminals by interconnecting them with the appropriate cable (60 V/16 A DC cable).
4. Turn the current adjustment knob to the required current-limiting value. Use the fine-tuned knob if desired (where applicable). The C.C. indicator lights on the display.
5. Remove the short-circuit cable from both output terminals.
6. Turn the voltage adjustment knob to the required value. Use the fine-tuned knob if desired (where applicable). The C.V. indicator lights up on the display.
7. Connect the load to the output terminals. If the current exceeds the current-limiting point, the C.C. indicator lights up on the display.

6.4 Connecting the Load

- Connect the load.
- You can read the output current and the output voltage from the display as soon as the device has been switched on.
- The C.V. indicator is lit if the device is in the C.V.-mode.
- The C.V. LED is off and the C.C. LED will light if the Amp display indicates a value that exceeds the installed value. When this happens, the device will automatically go into current-limiting mode. Install a load that will allow the device to function normally.

Cleaning and Maintenance

- Disconnect the device from the mains prior to maintenance activities.
- The power supply cables must not show any damage. Have a qualified technician maintain the device.
- Wipe the device regularly with a moist, lint-free cloth. Do not use alcohol or solvents.
- There are no user-serviceable parts, apart from the fuse. Contact your dealer for spare parts if necessary.
- Store the device in a dry, well-ventilated, dust-free room.

Technical Specifications

Input voltage ..... 220-240 V~ (± 10 %), 50/60 Hz
output
voltage ..... 0-30 VDC
current ..... 0-5 A
power ..... 150 W max.
cos Phi 0.82
fuse ..... 3.15 A, 250 V
ripple voltage ..... ≤ 1.0 mV (RMS)
ripple current ..... 3 mA (RMS)

operating temperature ..... 0 °C to +40 °C, < 90 % relative humidity
max. hours continuous at full load ..... 8 hours
dimensions ..... 117 x 190 x 270 mm
weight ..... 4.8 kg
colour ..... grey

Use this device with original accessories only. Velleman Group NV cannot be held responsible in the event of damage or injury resulting from (incorrect) use of this device. For more info concerning this product and the latest version of this manual, please visit our website www.velleman.eu. The information in this manual is subject to change without prior notice.

Velleman® Service and Quality Warranty
Since its foundation in 1972, Velleman® acquired extensive experience in the electronics world and currently distributes its products in over 85 countries.
All our products fulfill strict quality requirements and legal stipulations in the EU. In order to ensure quality, our products regularly go through an extra quality check, both by an internal quality department and by specialized external organizations. If, all precautionary measures notwithstanding, problems should occur, please make an appeal to our
warranty (see guarantee conditions).
General Warranty Conditions Concerning Consumer Products (for EU):

- All consumer products are subject to a 24-month warranty on production flaws and defective material from the original date of purchase.
- Velleman® can decide to replace an article with an equivalent article or to refund the retail value totally or partially when the complaint is valid and a free repair or replacement of the article is impossible, or if the expenses are out of proportion.
  You will be delivered a replacing article or a refund at the value of 100% of the purchase price in case of a flaw occurred in the first year after the date of purchase and delivery, or a replacing article at 50% of the purchase price or a refund at the value of 50% of the retail value in case of a flaw occurred in the second year after the date of purchase and
  delivery.
- **Not covered by warranty:**
  – all direct or indirect damage caused after delivery to the article (e.g. by oxidation, shocks, falls, dust, dirt, humidity…), and by the article, as well as its contents (e.g. data loss), compensation for loss of profits;
  – consumable goods, parts, or accessories that are subject to an aging process during normal use, such as batteries (rechargeable, non-rechargeable, built-in
  or replaceable), lamps, rubber parts, drive belts… (unlimited list);
  – flaws resulting from fire, water damage, lightning, accident, natural disaster, etc.…;
  – flaws caused deliberately, negligently, or resulting from improper handling, negligent maintenance, abusive use, or use contrary to the manufacturer's instructions;
  – damage caused by a commercial, professional or collective use of the article (the warranty validity will be reduced to six (6) months when the article is used professionally); – damage resulting from inappropriate packing and shipping of the article;
  – all damage caused by modification, repair, or alteration performed by a third party without written permission by Velleman®.

- Articles to be repaired must be delivered to your Velleman® dealer, solidly packed (preferably in the original packaging), and completed with the original receipt of purchase and a clear flaw description.
- Hint: In order to save on cost and time, please reread the manual and check if the flaw is caused by obvious causes prior to presenting the article for repair. Note that returning a non-defective article can also involve handling costs.
- Repairs occurring after warranty expiration are subject to shipping costs.
- The above conditions are without prejudice to all commercial warranties.

The above enumeration is subject to modification according to the article (see article's manual).

Made in PRC
Imported by Velleman nv
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Documents / Resources

	velleman LABPS3005NDC Lab Power Supply with LED Display [pdf] User Manual LABPS3005NDC Lab Power Supply with LED Display, LABPS3005NDC, Lab Power Supply with LED Display, Lab Power Supply, Power Supply with LED Display

References

- Velleman â€“ Wholesaler and developer of electronics