PCWork

PCWORK DC POWER SUPPLY PCW07A

User Manual

DC laboratory power supply

Instruction manual

DC laboratory power supply (DC POWER SUPPLY)
Quick guide

The PCWork PCW07A variable power supply is a very stable, regulated DC power supply that provides continuous adjustment of output current and voltage.

Copyright declaration

General information / safety instructions:

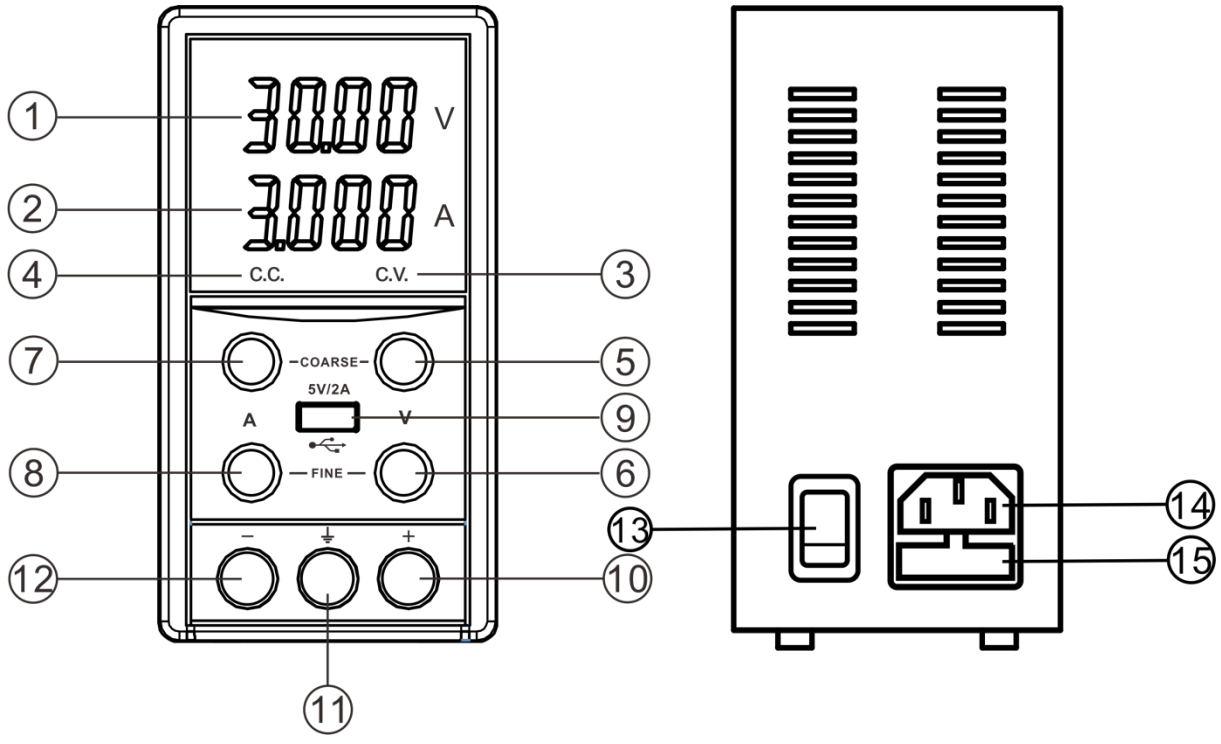
- It is not allowed to change the manual in any way or add content without the written permission of the distributor.
- The user of this power supply is obliged to ensure that any other person using this device has read and understood the manual, in particular the safety instructions. The user is obliged to ensure the functionality of the device before use, to provide the manual and has to ensure that only qualified users operate the device.
- Any modification related to the design or construction of the device is not allowed.
- Any warranty and liability claims for personal injury and property damage are excluded if they are due to one of the following causes:
    - Improper use and operation of the device
    - Non-compliance with the instructions and safety regulations of the manual
    - Operation and use without wearing suitable personal protective equipment
    - Use and installation of unauthorized spare parts
    - Improper maintenance and changes related to the design or construction of the device; removal of the nameplate.
- Please read this manual carefully before using the device and pay special attention to the safety warnings.
- Strictly adhere to this manual when using the device. Also, pay attention to all safety instructions on the device itself. Otherwise, the protective function of the device may be damaged, weakened or otherwise impaired. Safe operation and safety for the user cannot be guaranteed in this case.
- Do not provide children with access to the device. Parents bear full responsibility for all safety risks resulting from non-compliance.
- Before using the device, please check whether it has a crack or plastic damage. If this is the case, do not continue to use the device.
- Maintenance work on the device may only be carried out by trained specialist personnel.

Overview:

Model	PCW07A
Regulated output voltage	0-30V
Regulated Output current	0-5A

1. Technical data

1.1 Input voltage: 100~253V AC ±10% 50HZ~60Hz±2Hz
1.2 Line regulation: CV≤0.1%+3mV CC≤0.2%+3mA
1.3 Load regulation: CV≤0.05%+3mV CC≤0.5%+10mA
CV≤0.01%+5mV CC≤0.2%+5mA
1.4 Ripple and noise: CV≤5mVr.m.s CC≤20mAr.m.s
1.5 Protection: constant current and short circuit protection
1.6 Voltage display accuracy: LED±0.5%+5 counter,
1.7 Current display accuracy: LED±0.5%+5 counter,
1.8 Environment: 0 ~ +40 °C; relative humidity :<90%.



2. Operation

2.1 Controls and display:

(1) LED display with voltage value

(2) LED display with current value

(3) Indicator / Symbol of constant voltage

(4) Indicator / Symbols of constant current

(5) Rotary switch for adjusting the output voltage: coarse

(6) Rotary switch for adjusting the output voltage: fine

(7) Rotary switch for limiting the output current: coarse

(8) Rotary switch for limiting the output current: fine

(9) USB output jack: 5V/2A

(10) Output terminal positive (+) red

(11) Ground terminal green

(12) Output terminal negative (-) black

(13) On / Off switch

(14) AC input socket with fuse

(15) Concealed fuse box

2.2 Operation: Functions

2.2.1 Constant Voltage (CV),Automatic Frequency & Constant Current (CC)

The power supply operates as a constant voltage source as long as the load current is lower than the preselected current limit. If the load current is equal to or higher than the preselected limit, the power supply enters the constant current mode. As a result, the voltage decreases, the constant current symbol (CC) is shown in the LED display and the device operates as a constant current source. As soon as the load current falls below the previously selected limit value again, the device switches back to constant voltage mode.

2.2.2 Setting the current limit value (protection value)

Turn on the device, turn the switches (7 and 8) counterclockwise until you reach the minimum value, turn switch 5 clockwise to the appropriate value, and then short-circuit the output terminals (10 and 12). Then turn the rotary switches (7 and 8) clockwise to the appropriate value so that the output current is equal to the required current limit (protection value). When this is done, the limit value (protection value) is set. Now remove the short-circuit connection. The current limit value of the power supply is now set to "X" amperes for the entire output voltage range.

2.2.3 Connection establishment and operation

2.2.3.1.Plug the power cord of the device into an AC outlet (check rating).

2.2.3.2.Turn on the device; the LED display should turn on at the same time.

2.2.3.3 The constant voltage (CV) symbol should be shown in the display.

2.2.3.4.Turn the output current setting switch (7) clockwise to the maximum value unless you need a lower output current limit. If you do need a lower limit, set it using the steps in 2.2.2.

2.2.3.5.Set the desired output voltage range.

2.2.3.6.Connect the device to the load (which is to be supplied with current and voltage) by connecting the positive poles and the negative poles (positive to positive; negative to negative).

2.2.3.7.Make sure that the constant voltage (CV) symbol is shown in the display.

2.2.3.8.If the constant current (CC) icon appears on the display, either your previously selected current limit is too low or your load requires a higher voltage and current. In this case, you must re-evaluate the voltage and current requirements of your load and adjust the output voltage and current accordingly until the constant voltage (CV) icon reappears.

2.2.4 Overvoltage protection

This function is intended to protect the connected load, in case of malfunction of the output voltage control circuit. The maximum output voltage cannot exceed 30% of the voltage set during operation.

3. Warning

3.1 In case of a short circuit at the output, the current is limited according to the previously selected limit value. Nevertheless, the device should be switched off immediately and the short-circuit source removed before the device is used any further.
3.2 The unit must be disconnected from the power source and loads before it can be serviced. Maintenance should only be performed by trained service personnel.
3.3 The device should be stored in a dry and well-ventilated place. The power cable should also be removed if the device is to be stored for a longer period of time.

4. Accessories

4.1 Power cable

4.2 Operating instructions

5. Notes on disposal:

You are not permitted to dispose of this device in household waste. This device complies with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). Please dispose of the device at your local collection point.

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Importer / Distributor:

Company name	P+C Schwick GmbH
Address	Pohlhauser Straße 9, 42929 Wermelskirchen, Germany
Email	info@schwick.de
Internet	www.schwick.de
WEEE No.	DE 73586423
Local court	Wermelskirchen, Germany

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