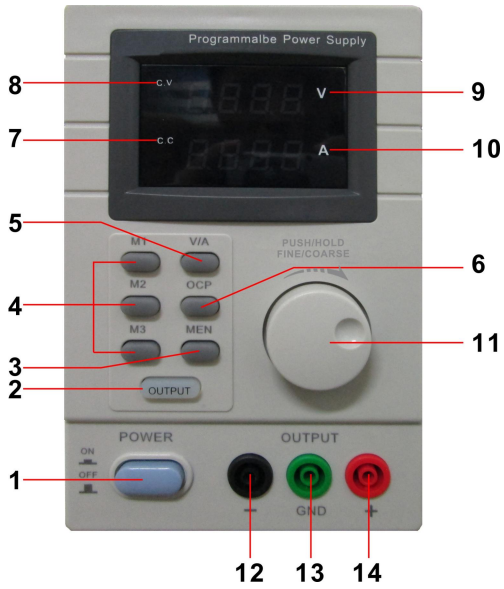




QJ3003P QJ3005P

EN PROGRAMMABLE DC LAB POWER SUPPLY 0-30V/ USB 2.0





USER MANUAL

1. 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, don't install or use it and contact your dealer.

2. 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 times. For sufficient air circulation, leave at least 1" (± 2.5 cm) in front of the openings. Place the device on a flat, heat resistant surface, do not place the device on carpets, fabrics...



Always disconnect mains power when device not in use or when servicing or maintenance 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 service the device yourself but contact an authorised dealer.

3. General Guidelines

- 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 unauthorised 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.

4. Features

- dual LED display for voltage and current
- coarse and fine adjustments of voltage and current
- protection mode: current limiting
- output connectors: insulated safety plugs
- organic glass front panel / other panels made of steel
- memory: 3 programmable memories
- computer connectivity: pc remote control via USB
- software included for Windows XP, Vista and W7, W8, W8.1 (32 bits + 64 bits)

5. Description

The QJ3003P QJ3005P 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 0V and 30V when the device is in the constant voltage mode. The current-limiting point can be set arbitrarily in this mode.

The output current can be adjusted continuously between 0A and 5A in the constant current mode.

The output current and voltage are indicated on the LED displays.

1	Power: on/off button	11	Voltage/Current: select between voltage or current for adjustment
2	Off/On: output on/off	12	Output terminals-
3	MEN: memory save	13	Earth (ground) terminal, connected to the
4	M1-M3: memory recall	14	Output terminals+
5	Voltage/Current: select between voltage or current	15	Power supply socket
6	OCP: over current protection	16	Fan
7	CC indicator: constant current mode	17	USB port (type B) for remote control via pc
8	CV indicator: constant voltage mode		
9	Voltage display (volt)		
10	Current display (ampere)		

6. Operation

Switching the Power Supply On or Off

1. Connect the included power cord to the back of the device [15] and plug the other end into a suitable, earthed power socket.



Always connect the device to an **earthed** power socket.

2. Press the **Power** button [1] to switch the power supply on.
At this moment, there is no output voltage or current on the output terminals.
3. Press the **Power** button [1] to switch the power supply off.

Using the Power Supply in Constant Voltage Mode

If you want to use the power supply in constant voltage mode, you set up the desired output voltage between 0V and 30V. You also set up the desired current limit.

If the output current exceeds the limit, the power supply automatically goes into constant current mode.

Using the Power Supply in Constant Current Mode

If you want to use the power supply in constant current mode: you set up the desired output current between 0A and 3A/5A. You also set up the desired voltage limit.

Setting Voltage and Current

You can save 3 different voltage/current settings using the memory keys M1~M3.

1. Press the **Voltage/Current** key [5] to set the voltage. The voltage readout flashes.
 - For use in constant voltage mode: this is the desired constant voltage.
2. Turn the adjustment knob [11] until you reach approximately the desired voltage. Press [11] to select a digit in the voltage readout [9] and turn the adjustment knob to fine-tune.
3. Press the **Voltage/Current** key [5] again to set the current. The current readout flashes.
 - For use in constant voltage mode: this is the desired current limit.
 - For use in constant current mode: this is the desired constant current.
 - If you enable overcurrent protection, the output switches off automatically if the current exceeds this value.
4. Turn the adjustment knob [11] until you reach approximately the desired current. Press [11] to select a digit in the current readout [10] and turn the adjustment knob to fine-tune.
5. Press the memory key [3] again (or wait until the display to start flashing). Then press the m1-m3 button The settings are saved in the selected memory.(the display stops flashing)

Recalling Settings

To recall one of the saved settings, press the corresponding memory key M1~M3 [4]. the corresponding voltage/current settings appear on the display.

Note: the output is switched off automatically when you press a memory key to recall a setup.

Using Memory 3

To use memory 3, proceed as follows:

1. Set the voltage and current as desired Press memory key [3],Wait until the display start to flashing. Then Press key [4] the settings are automatically stored in memory, and until the display stops to flashing.
2. To recall the settings, press key 4.

Connecting a Load

1. Connect the load's positive terminal to the red + terminal [14] of the power supply.
2. Connect the load's negative terminal to the black - terminal [12] of the power supply.
3. You can connect the + or - terminal to the green earth terminal [13] of the power supply to pin the voltage to 0V (earth potential) at that terminal.
If you leave the earth terminal unconnected, the output floats with respect to the ground.

Applying Voltage to the Load

1. Press the **Off/On** key [1] to apply the voltage to the load.
The **OUT** [2] and **C.V.** indicators [8] light. The power supply works in constant voltage (CV) mode; the display now shows the actual output voltage and current.
If the current exceeds the set current limit, the power supply automatically goes into constant current (CC) mode. The **C.V.** indicator goes out and the **C.C.** indicator [7] lights.
2. Press the **Off/On** key [1] to switch the output off.

Protection

Using Overcurrent Protection

To protect against overcurrent, set up the maximum current and then press the **OCP** button.

Press **Off/On** to apply the output to the load.

If the output current becomes higher than the set value, the power supply cuts off the output and the **OCP** indicator flashes.

Disconnect the load. To recover, press the **OCP** key.

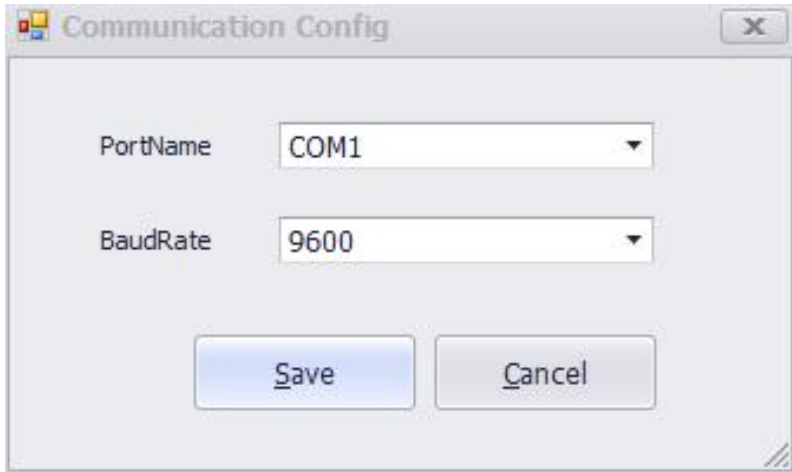
10. Remote Control via PC

To operate the power supply via the included pc software, proceed as follows:

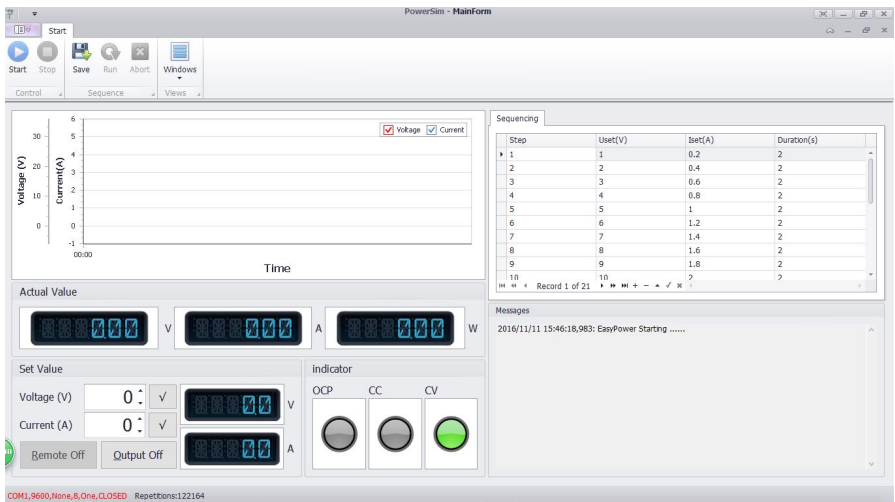
1. Install the software on your pc and launch the software.
2. Connect the power supply to the pc via the USB **[17]** port and switch it on.

Note: the keys on the front panel are locked when the power supply is connected to a pc. You can only operate the power supply via the pc. The LED display and indicators work normally.

3. Click the shortcut icon to launch the software. The opening screen appears.
4. Choose the connected interface number from the drop list and click ENTER to confirm.



2. The main screen appears.



MainForm tab**1.Voltage/Current output display**

Display for the output voltage and current.

2.Voltage Set/Current Set

Setting windows for the voltage and current values. Change the value with the arrows.

3.Voltage waveform diagram

Displays the voltage wave curve.

4.Current waveform diagram

Displays the current wave curve.

ProgramForm tab**1.Start**

Software running.

2.Uset (V)

Voltage parameters.

3.Iset (A)

Current parameters.

4.Duration (S)

Timeout for every parameter.

5.Repetition

Number of cycles of the programming output.

6.Output

On-off button for the programming output.

Indicator

The unit output state

7.Abort

Suspend to programming output

5. Cleaning and Maintenance

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

Replacing the Fuse

- 1 Only replace the fuse by a fuse of the same type and rating.
- 2 Before replacing the fuse, unplug the mains lead.
- 3 Wedge the fuse holder out of its housing with a flat-head screwdriver.
- 4 Remove the damaged fuse from its holder and replace with the exact same type of fuse.
- 5 Insert the fuse holder back in its place and reconnect power.

1. Technical Specifications

input voltage	230 V~/ 50 Hz
fuse	1.6A/2A /250 V
output voltage	0-30 V
output current	0-3A/0-5 A
source effect	C.V. ≤ 0.01 % + 3 mV C.C. ≤ 0.1 % + 3 mA
load effect	C.V. ≤ 0.01 % + 2 mV C.C. ≤ 0.1 % + 10 mA
setup resolution	10 mV 1 mA
setup accuracy (25°C ± 5°C)	≤ 0.5 % + 20 mV ≤ 0.5 % + 10 mA
ripple (20Hz-20MHz)	≤ 2 mV rms ≤ 3 mA rms
temperature coefficient	≤ 100 ppm + 10 mV ≤ 100 ppm + 5 mA
read back accuracy	10 mV 1 mA
read back temp. coefficient	≤ 100 ppm + 10 mV ≤ 100 ppm + 5 mA
reaction time (10% rated load)	voltage rise: ≤ 100 ms voltage drop: ≤ 100 ms
dimensions	115 (W) x 190 (H) x 240 (D) mm
weight	QJ3003P: 4Kg QJ3005P: 5.3Kg
autonomy	8 hours of continuous use at maximum load