

# POWERTECH

## 0-30VDC 0-5A Regulated Lab Power Supply MP-3840 User Manual



### Features:

- Professional, highly flexible lab power supply
- Select precise voltage levels and current limits
- Prevents overheating, burnout and over-current
- Short-circuit protection
- Surface mount technology with a powerful internal cooling system
- 1mV ripple voltage
- 0 to 30VDC adjustable voltage output
- 0 to 5A adjustable current limit
- Bright 4-digit LCD display
- Button lock function
- Banana plug/binding posts on front of unit

**Please familiarise yourself with the functions of this product before use.**

**We recommend keeping this manual for ease of reference.**

- If you experience issues with this product within the warranty period then please contact Techbrands by Electus Distribution.
- Only use this product for its intended purpose.
- Modifications to this product are forbidden for safety reasons.
- The warranty will be void if the product has been used in an unauthorised manner and/or the product has been subject to user modifications.
- Any damages caused as a result of disregarding the guidelines within this manual will not be covered by the warranty.

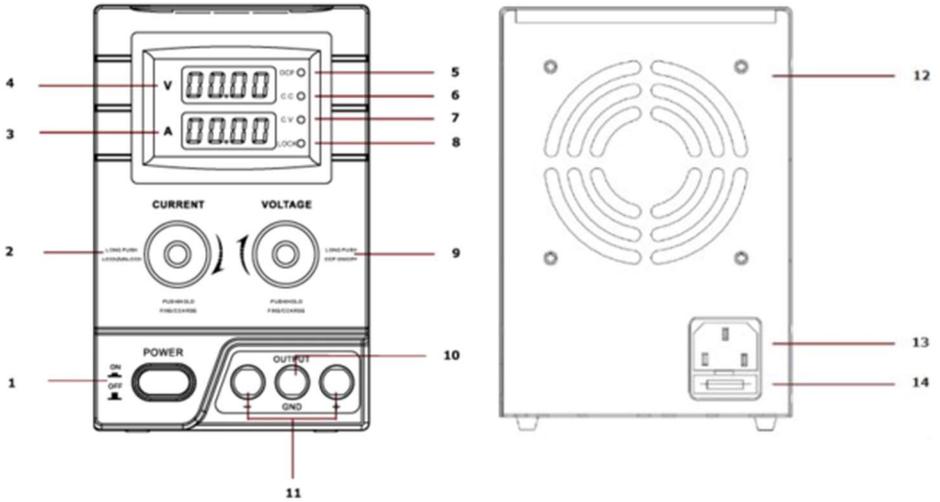
### **Warnings:**

- 1) Keep this product away from children and unauthorised users.
- 2) ALWAYS connect the product to an earthed mains outlet.
- 3) Only use this product INDOORS. Keep it somewhere dry where risk of exposure to dust, rain, moisture or spilt liquids is low. Never put objects filled with liquids on top of, or close to, the product.
- 4) DO NOT disassemble or open the cover of this product under ANY circumstances. Touching live wires can cause life-threatening electric shocks. Apart from the fuse, there are no user-serviceable parts.
- 5) This product will heat up during use. Make sure the ventilation openings are clear at all times. For sufficient air circulation, create 25mm+ clearance in front of the ventilation openings. Ensure you position the product on a flat, heat resistant surface to use. Do not place the device on carpet, fabric or any other flammable surface.
- 6) Always disconnect the product from mains power when not in use. Handle the power cable by the plug only.
- 7) Keep this product away from dust and extreme temperatures.
- 8) Avoid brute force when operating the device. Do not drop it.
- 9) Immediately discontinue use if you notice any damage to the product's housing or cables. Do not attempt to repair any damage yourself.
- 10) Disconnect the product from mains power prior to maintenance activities.
- 11) Use a moist, lint-free cloth to clean the product. Do not use alcohol or solvents.

### **Replacing The Fuse:**

1. The fuse is the ONLY component you should service. For all other issues, please contact Techbrands by Electus Distribution or a specialist repairer.
2. Only replace the fuse with a fuse of the same type and rating.
3. Before replacing the fuse, unplug the mains cable.
4. Wedge the fuse holder out of its housing with a flat-head screwdriver.
5. Remove the damaged fuse from its holder and replace with the exact same type of fuse.
6. Insert the fuse holder back into its place and reconnect power.

## Functions:



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| <b>1</b> Power button  | <b>8</b> Panel lock indicator  |
| <b>2</b> Current adjustment dial   | <b>9</b> Voltage adjustment dial   |
| <b>3</b> Ampere meter  | <b>10</b> Earth (ground) terminal<br>(connected to the chassis and earth pin of the power supply socket) |
| <b>4</b> Volt meter<br>(displays voltage limit)  | <b>11</b> Output terminals   |
| <b>5</b> Over-current protection indicator   | <b>12</b> Fan  |
| <b>6</b> Constant current indicator<br>(lights up when product is in constant current mode)    | <b>13</b> Power supply socket  |
| <b>7</b> Constant voltage indicator<br>(lights up when the device is in constant voltage mode) | <b>14</b> Fuse holder  |

## **Operation:**

### **Switching On/Off:**

- Connect the enclosed power cable to the back of the product, then plug the other end into an earthed mains power supply.
- Press the POWER button to switch the power supply on.
- The device will display the last used setting.
- Press the POWER button again to switch the power supply off.
- Disconnect the product from mains power.

### **Setting the Output voltage:**

- Push the VOLTAGE dial once. The Tens digit will blink. Turn the knob and adjust as desired.
- Push the VOLTAGE dial again to adjust the Ones digit.
- Do the same for the tenths and hundredths digits.
- When done, wait a few seconds until the display stops blinking.
- The voltage is now set.

### **Setting the Constant Current limit:**

- Push the CURRENT dial once. The Tens digit will blink. Turn the knob and adjust as desired.
- Push the CURRENT dial again to adjust the Ones digit.
- Do the same for the tenths and hundredths digits.
- When done, wait a few seconds until the display stops blinking.
- The constant current limit is now set.
- Note that the power supply will be in Constant voltage mode until the output current is higher than the set value. When in Constant current mode, the CC LED lights up. Current is kept constant but the voltage changes with respect to load resistance.

### **Connecting a load:**

- Connect the load's positive terminal to the RED positive terminal of the product.
- Connect the load's negative terminal to the BLACK negative terminal of the product.
- You can connect the positive or negative terminal to the green earth terminal of the power supply. This will pin the voltage to 0V (earth potential) at that terminal.
- If the earth terminal is unconnected, the output floats with respect to the ground.

### **Locking the panel controls:**

- Lock the front panel controls to prevent accidental/unwanted changes or adjustments.
- Press and hold the CURRENT adjustment dial until the lock indicator lights up. The controls are now locked. Output voltage cannot be adjusted.
- To unlock the controls, press and hold the CURRENT dial again until the lock indicator switches off.

### **Over-current protection:**

- Press and hold the VOLTAGE adjustment dial until Off/On is displayed on the LCD screen.
- Turn the Voltage dial to adjust to On. OCP indicator will light up.
- To change the OCP limit, push the CURRENT dial and adjust as needed.
- When done, press and hold the Voltage dial for 3 seconds and release. OCP limit is now set.
- If the output current becomes higher than the set value, the power supply will cut off and the OCP indicator flashes.
- To recover, turn off the power supply. Disconnect the load. Restart the power supply.
- To disable OCP, press and hold the VOLTAGE adjustment dial until On is displayed on the LCD screen. Turn dial to change to Off. Push Voltage dial once to exit.

### **Troubleshooting:**

#### Problem:

Nothing happens when the buttons on the panel are pushed.

Power is being delivered to the power supply unit and the output is switched on, but there is no output.

The output voltage rises slowly when the output is switched on.

#### Solution:

Check the panel controls are not locked. To unlock, press and hold the Current dial until lock indicator is off.

The load may not be connected properly. Check the connections. Alternatively, the current is set to 0. Review the settings and adjust accordingly.

The set current is too low. Review the settings and adjust accordingly.

## Technical Specifications:

Input Voltage:	220-240AC 50-60Hz
Output Voltage:	0-30V adjustable (10mV accuracy)
Output Current:	0-5A adjustable (1mA accuracy)
Ripple Voltage:	1mV
Ripple Current:	3mA
Dimensions:	270(L) x 120(W) x 185(H)mm
Weight:	4.8kg

*This product must not be disposed of as domestic waste. It must be disposed of at an authorised place for recycling of electrical equipment and appliances. By recycling waste, you help save natural resources and make sure the product is disposed of in an environmentally friendly manner.*

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