



## ***TPS150V Power Supply***

### Instruction manual



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## Packing list

- 1x TPS150V
- 1x Power Cord
- 1x Instruction Manual

Signed by:

Date:

**Cleaver Scientific is liable for all missing or damaged parts / accessories within 7 days after customer received this instrument package. Please contact Cleaver Scientific immediately regarding this issue. If no response within such time period from consignee party, that will be consignee party's whole responsibility.**

## Warning

Cleaver Scientific's Power Supply has been tested and found to comply with the limits for the CE regulation. It is also RoHS compliant to meet the requirements of the environmental directive. These requirements are designed to provide reasonable protection against harmful interference when the instrument series is operated in a commercial environment. When in use these instruments may generate, use, and radiate radio frequency energy; and if these units are not installed and used in accordance with the instruction manual harmful interference to radio communications may occur. Operation of this instrument series in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense. Changes or modifications not expressly approved by the party responsible for compliance could nullify the user's authority to operate the equipment. It is strongly recommended for the user to read the following points carefully before operating this equipment.

1. Read and follow the manual instructions carefully.
2. Do not alter the equipment. Failure to follow these directions could result in personal and/or laboratory hazards, as well as invalidate equipment warranty.
3. Use a properly grounded electrical outlet with correct voltage and current handling capacity.
4. Disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.
5. Never use this instrument series without having the safety cover correctly in position.
6. Do not use the unit if there is any sign of damage to the external tank or cover. Replace damaged parts.
7. Do not use in the presence of flammable or combustible material; fire or explosion may result. This device contains components which may ignite such materials.
8. Refer maintenance and servicing to qualified personnel.
9. Ensure that the system is connected to electrical service according to local and national electrical codes. Failure to make a proper connection may create fire or shock hazard.
10. Use appropriate materials and operate correctly to avoid possible hazards

of explosion, implosion or release of toxic or flammable gases arising from overheated materials.

11. The unit shall be operated only by qualified personnel.

### **Safety Information**

Take all necessary precautions for using any electrical device. Before connecting the electrical supply, check to see if the supply voltage is within the range stated at the rating label, and see to it that the device be seated firmly. Place the unit in a safe and dry location; it must NOT touch its surroundings. Follow the safety precautions for chemicals / dangerous materials. If needed, please contact qualified service representative or [info@cleaverscientific.com](mailto:info@cleaverscientific.com)

### **Environmental Conditions**

Ensure the instrument is installed and operated strictly under the following conditions:

1. Indoor use only
2.  $\leq 95\%$  RH
3. 75 kPa – 106 kPa
4. Altitude must not exceed 2000 meters
5. Ambient to 40°C operating temperature
6. Pollution degree: 2
7. Mains supply voltage fluctuations up to  $\pm 10\%$  of the normal voltage

### **Avoiding Electrical Shock**

Follow the guidelines below to ensure safe operation of the unit.

The NANOPAC Power Supplies has been designed to use insulated wires thus minimizing any potential shock hazard to the user. Cleaver Scientific recommends against the use of uninsulated wires.

To avoid electrical shock:

1. In the event of solution spilling on the instrument, it must be dried out for at least 2 hours and restored to NORMAL CONDITION before each operation.
2. Never connect or disconnect wires loading from the power jacks when the red indicator light of power switch is on.
3. WAIT at least 5 seconds after stopping a run before handling output leads or any connected apparatus.
4. ALWAYS make sure that your hands, work area, and instruments are **clean** and **dry** before making any connections or operating the power supply.
5. ONLY connect the power cord to a properly grounded AC outlet.

## Avoiding Damage to the Instrument

1. Do not attempt to operate the device if damage is suspected.
2. Protect this unit from physical damage, corrosive agents and extreme temperatures (direct sunlight, etc.).
3. For proper ventilation and safety concerns, keep at least 10 cm of space behind the instrument, and at least 5 cm of space on each side.
4. Use high level of precaution against the damages on the unit.
5. Do not operate the unit out of environmental conditions addressed above.
6. Before applying any cleaning or decontamination methods other than manufacturer's recommendation, users should check with the manufacturer to see if the proposed method will damage the equipment.

## Equipment Operation

Follow the guidelines below to ensure safe operation of the unit:

1. NEVER access dangerous chemicals or other materials to prevent possible hazard of explosion and damage.
2. Do not operate the unit without lids or covers to prevent possible hazards.
3. A temporary conductivity caused by condensation might occur even though this series is rated Pollution Degree 2 in accordance with IEC 664.

## Symbol

Symbols used on the power supply is explained below.



Indicates an area where a potential shock hazard may exist.  
Consult the manual to avoid possible personal injury or instrument damage.



Indicates disposal instruction.  
**DO NOT** throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. To ensure utmost protection of the global environment and minimize pollution, please recycle this unit.

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## Section 1 Introduction

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### 1.1 Overview

Cleaver Scientific TPS150V Power Supply is uniquely equipped with specifications to address the majority of electrophoresis applications. Output voltages can be selected between 75 & 150V giving reproducible data from one experiment to another.



## Section 2 Technical Specification

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<b>Output Voltage / Inc.</b>	75 or 150V
<b>Output Current / Inc.</b>	0 - 300mA
<b>Output Type</b>	Constant Voltage
<b>Terminal Pairs</b>	2 Pairs
<b>Operation Temperature</b>	Ambient to 40 °C
<b>Unit Dimension</b>	100 x 191 x 100mm
<b>Construction material</b>	High Impact Plastic
<b>Weight</b>	Approx. 0.5 kg
<b>Rated Voltage</b>	240 V



## **Section 3 Installation Instructions**

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Power Supply is a factory pre-installed instrument. As long as it is placed on a sturdy and level surface in a safe, dry place, and is connected to a suitably prepared electrophoresis system, it is ready for operation.

## **Section 4 Operation Instructions**

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### **4.1 To operate**

Plug the unit into a grounded 240V mains supply and turn on the unit by selecting either 75 or 150V.

## 4.2 Replacing the Fuse

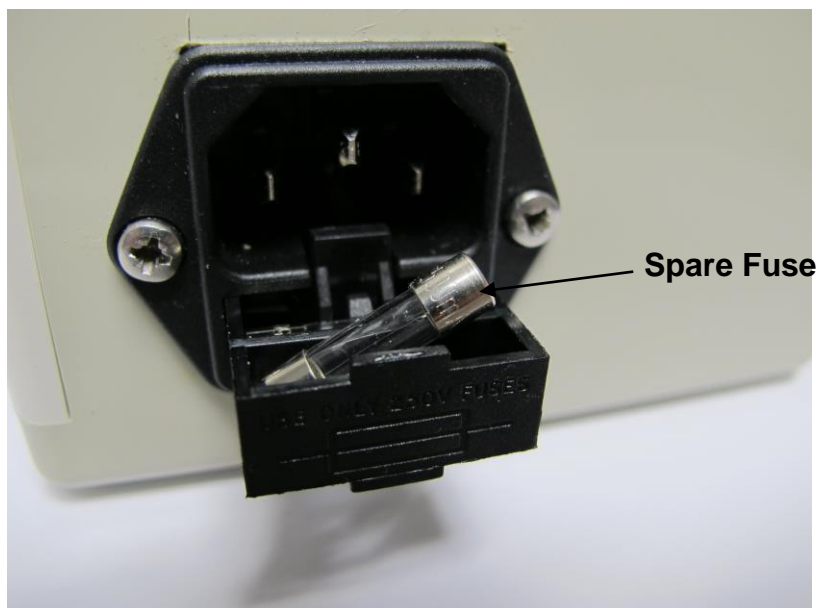
For additional fuses, contact Cleaver Scientific. Ltd.

To replace the fuse:

1. Turn off the main power switch at the rear of Power Supply and detach the power cord.
2. Open the fuse compartment located inside the Power Entry Module by inserting a small flat blade screwdriver into the slot below the ON/OFF switch. Turn the screwdriver to gently pry open the fuse compartment.

**Note:** The fuse compartment will not open with the power cord in place.

3. Pull the fuse holder out of the compartment and inspect the fuse that goes furthest into the PSU. The outer fuse is a spare! If the fuse is burned or there is a break in the fuse element, replace the fuse with an identical type of fuse as provided in the fuse holder (see figure below).
4. Place the fuse holder back into the compartment.
5. Snap the cover closed.



## Maintenance

The Power Supply uses all solid-state components and should require no maintenance or recalibration under normal use. If the unit must be returned for repair, contact our **SERVICE DEPARTMENT** or your local authorized Cleaver Scientific distributor.

## Section 7 Warranty

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Cleaver Scientific warrants apparatus of its manufacture against defects in materials and workmanship, under normal service, for **one year from the shipping date to purchaser**. This warranty excludes damages resulting from shipping, misuse, carelessness, or neglect. Cleaver Scientific's liability under the warranty is limited to the receipt of reasonable proof by the customer that the defect is embraced within the terms of the warranty. All claims made under this warranty must be presented to Cleaver Scientific within one year following the date of delivery of the product to the customer.

### Contact Information

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