

R04365/125083

Retro Basic PSU

NFU 960

R04366/125081

Retro Ranger PSU

R04367/125082

Retro Regulated PSU

Retro Basic



Retro Ranger



Retro Regulated

Introduction

These three “retro” power supplies are intended for general laboratory use and have some features in common with the original UNILAB power supplies:

- All have a locking mechanism, that can limit or preset the voltage available to students in specific experiments.
- All have 4mm output socket/terminals, for connection of bare wires as necessary
- All have a thermal “trip”, which can be reset shortly after removal of the excess load.
- All are robustly made, with captive mains lead and integral cable wraps on the back panel.
- All are protected by a time delay mains fuse in the front panel.

Product specifications

| Specifications | Retro Basic | Retro Ranger | Retro Regulated |
|-------------------------------|--|--|--|
| Mains input | 230V ac 50Hz | 230V ac 50Hz | 230V ac 50Hz |
| Power rating (VA) | 80 | 242 | 108 |
| Fuse (front panel) | T1A (time delay) | T2A | T1A |
| Output range (V) | 2,4,6,9,12 AC or DC Unsmoothed | 0-15 AC & 0-20 DC Smoothed by 4700 μ F | 2,4,6,9,12 DC only Regulated |
| Max current (A) | 4 | 8 total AC + DC | 4 |
| Thermal trip/reset | Yes | Yes | Yes |
| Temperature & humidity limits | -5 to 50°C 10 to 90% RH | -5 to 50°C 10 to 90% RH | -5 to 50°C 10 to 90% RH |
| Dimensions (mm) | 290 x165 x 165 | 290 x165 x 165 | 290 x165 x 165 |
| Mass (kg) | 4.1 | 5.6 | 4.3 |
| Similar to UNILAB | 022.104 | 022.106 | None |
| Applications | Basic power supply for ray boxes, simple circuits, heaters and electrolysis. | Higher power for halogen lamps, heaters and for basic general use. | Regulated supply for quantitative circuit work, e.g. Ohm's law, datalogging. |

Locking mechanisms



Basic and Regulated

A hexagon key is used to turn the locking screws. Turn any screw anticlockwise until it just stops. It protrudes from the front panel and blocks rotation of the control knob.

The screws are captive.

Using a single screw, an upper limit can be set. Using two screws, a fixed voltage can be set, by trapping the pointer.

Similarly, it is also possible to lock the power supply to AC or DC only (Basic).

NOTE: AC and DC are NOT available simultaneously.

Ranger

A hexagon key is used to clamp the clear Perspex disc. The yellow line on this disc indicates the maximum AC and DC voltage available. The control knob can be turned to adjust the voltage output from 0 to the preset maximum.

The DC output is higher due to the internal smoothing capacitor (4700uF).

NOTE: AC and DC outputs are available simultaneously, but the total current should be limited to 8 amps.



Warnings

For your safety, this product should be used in accordance with these instructions, otherwise the protection provided may be impaired.

EMC

This equipment is Class A according to the EMC standard EN 55011 and is intended for use in a non-domestic environment only.

Do not open or remove covers or panels. Repairs and service may only be carried out by our repair agent, otherwise the warranty may be void.

Use only the 3-core mains cable supplied with the unit. If the mains cable is replaced, the rating of the replacement must be the same or better than the original.

The unit must be earthed at all times. The unit is earthed/grounded through the 3-core mains lead, so no additional earth connection is required.

Always position the power supply so that it can be disconnected from the mains, if an emergency arises.

This unit is intended for use in DRY conditions. Avoid spillage of water and other liquids on to the unit. If spillage occurs, disconnect the mains supply.

There is no specific requirement for insulation of external circuits as they cannot become hazardous live, as a result of connection to this unit. Limit the length of any connecting leads to 3 metres.

Cleaning

The front panel membrane conceals and protects switches and LEDs. It may be wiped clean using a damp cloth. Be sure to disconnect the unit from the mains before cleaning, and do not use any abrasive cleaners or organic solvents.

Periodic testing


Check the mains lead and plugs at both ends for any damage.

Periodically check the earth bonding and insulation, by performing a Portable Appliance Test (PAT). Most schools and local authorities have a regular schedule for such testing.

Check the action of the electronic cutout, by short circuiting the power supply output (check dc and ac outputs separately) using a short 4mm plug lead.

Check that the fuse in the mains plug (5A recommended) and the two fuses (active and spare) in the IEC socket on the back panel are all of the correct rating.

Disposal of Waste Electrical and Electronic Equipment (WEEE)



Do not dispose of this product with household waste

- For the proper treatment, recovery and recycling please take this product to an appropriate collection point.
- If you are unsure where this is, contact your Local Authority
- By disposing of this product correctly you will be providing positive help to the environment.

Warranty, repairs and spare parts

The power supply is guaranteed for a period of one year from the date of delivery to the customer. This warranty does not apply to defects resulting from the action of a user such as misuse, improper wiring, any operations outside of its specification, improper maintenance or repair, or unauthorized modification.

Our liability is limited to repair or replacement of the product. Any failure during the warranty period should be referred to Customer Services.

In the event of a fault, apart from replacing the instrument fuse in the IEC socket, the power supply should be referred to the Philip Harris recommended repair agent.

Please contact Customer Services or techsupport@philipharris.co.uk for advice

Instructions for authorized service technicians

Ensure that any replaceable mains cord is of the correct rating.

Ensure that all earth conductors and protective earth bonding is maintained after service work.

Please refer to the detailed service procedures, safe servicing and continued safety – contact techsupport@philipharris.co.uk for advice.

For any manufacturer specific parts please refer to our recommended repairer. Please refer to product specific risks that may affect service personnel, the protective measures and verification of the safe state after repair.

Supplier details

Philip Harris Education, 2 Gregory Street, Hyde, Cheshire, SK14 4RH

Orders and Information Tel: 0845 120 4521

Fax: 0800 138 8881

Repairs Tel: 0845 120 3211

E-mail: techsupport@philipharris.co.uk

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