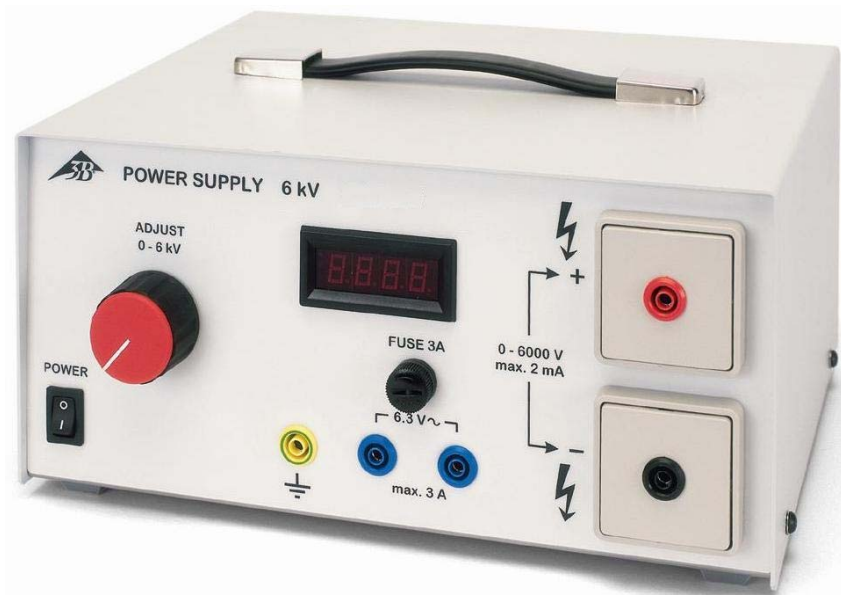


High Voltage Power Supply 6 kV (115 V, 50/60 Hz) 1003140
High Voltage Power Supply 6 kV (230 V, 50/60 Hz) 1003141

Instruction sheet

09/12 ALF





1. Safety instructions

The High Voltage Power Supply 6 kV conforms to all safety regulations for electrical measuring, control, monitoring and laboratory equipment, as specified under DIN EN 61010, Section 1, and the equipment has been designed to meet protection class I. It is intended for operation in a dry environment, suitable for the operation of electrical equipment and systems.

Safe operation of the equipment is guaranteed, provided it is used correctly. However, there is no guarantee of safety if the equipment is used in an improper or careless manner.

If it may be assumed for any reason that non-hazardous operation will not be possible (e.g. visible damage), the equipment should be switched off immediately and secured against any unintended use.

In schools and other educational institutions, the operation of the power supply unit must be supervised by qualified personnel.

- Before using the power supply unit for the first time, confirm that the specifications printed on the rear side of the housing are compatible with the local mains voltage.
- Before using the power supply unit, check the housing and the mains lead for any damage. In the event of any malfunction/operational defect or visible damage, switch off the unit immediately and secure it against unintended use.
-  Do not connect capacitors with a capacitance $> 3.5 \text{ nF}$, as according to EN 61010-1 a danger of hazardous contact exists for capacitances above 4.5 nF (approximately 1 nF already exists in the power supply output).
-  Do not connect another high voltage (more than 500 V DC) between any of the outputs and chassis/ground/earth!

- The instrument may only be connected to the mains via a socket that has an earth connection.
- Do not connect multiple high-voltage power supplies in series.
- Before making any connections, check the experiment leads for damaged insulation and exposed wires.
- Do not switch on the power supply before the experiment set-up is finished and with the voltage regulator turned all the way to the left.
- Any changes to the circuit may only be made with the power supply switched off.
- Replace a faulty fuse only with one matching the specifications stated at the rear of the housing.
- Disconnect the equipment from the mains before replacing a fuse.
- Never short the fuse or the fuse holder.
- Do not put anything on top of the power supply, that could prevent natural air cooling of the device.
- The equipment may only be opened/repaired by qualified and trained personnel.

2. Description

Universal, floating, high-voltage source for all electrostatic experiments and for operating spectral tubes as well as other gas-discharge tubes and electronic tubes.

Equipped with an integrated transformer which is resistant to high-voltages and which allows a tapping of the heating voltage for operating electronic tubes.

Continuously adjustable, non-hazardous high voltage with passive current limiting and a digital voltage display.

The power supply unit with the order number 1003141 is for mains supplies of 230 V ($\pm 10\%$) while the one with order no. 1003140 is for 115 V ($\pm 10\%$) systems.

3. Bedienelemente



Mains switch

If the light in the display goes out, remove the mains cable and check the fuse in the fuse holder on the rear panel of the device.



Voltage regulator

0 ... 6000 V DC

Continuous regulation with digital voltmeter to the right.

Note: The Voltmeter displays the voltage at the output.



Heater voltage output

6.3 V AC output, max. load 3 A.

If the voltage disappears, and the LED-display is still on, there has been an overload. Turn off the device - unscrew the FUSE-cap and replace the fuse (3 A slow blow).



Digital display

LED, 3 digits

Continuous reading of the adjusted voltage at the output under load.



Note: If the load current is 1 mA, then the max. output voltage is approx. 3 kV. This is caused by the safety passive current limiter



WARNING: The display may show a small value if a load is connected, even if the regulator knob is turned fully cw for maximum output. If the load is changed the output may rise to 6 kV without any warning.

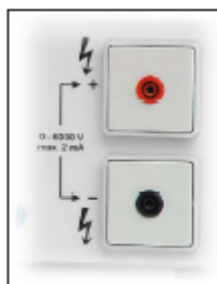


Chassis/ground/earth

The outputs are floating with respect to ground. The  output or the  output may be connected to chassis/ground/earth. Then the digital LED-display will be more stable.



Caution: Do not connect another high voltage (more than 500 V DC) between any of the outputs and chassis/ground/earth!!! - or the internal transformer will be permanently damaged.



High voltage output

0 ... 6000 V DC, max 2 mA load

Continuously adjustable. Outputs are floating and the positive or the negative output should be connected to the chassis/ground/earth. An external voltage of

maximum 500 V DC may be added between any of the outputs and chassis/ground/earth.

Primary fuse/Mains input



Unscrew cap to replace fuse.
1003140: Mains input 115 V,
50/60 Hz
1003141: Mains input 230 V,
50/60 Hz



Power cable

US-type 5-15P/C13 for
power supply 1003140



Power cable

EU-type Schuko IEC-320/C13
for power supply 1003141

4. Technical data

Outputs:

High voltage output: 0 – 6000 V DC,
max. 2 mA

Heater voltage output: 6.3 V AC, max. 3 A,
high voltage resis-
tant up to 6 kV

Overload protection: Feinsicherung 3 A,
träge

Terminals: 4 mm safety sockets

Power consumption: 50 VA

High-voltage display: 3-digit LED

Dimensions: 140x285x220 mm³

Weight: 6 kg approx.

5. Care and maintenance

- Before cleaning the equipment, disconnect it from its power supply.
- Use a soft, damp cloth to clean it.

6. Disposal

- The packaging should be disposed of at local recycling points.
- Should you need to dispose of the equipment itself, never throw it away in normal domestic waste. Local regulations for the disposal of electrical equipment will apply.

