

## DC Power Supply 0 – 20 V, 0 – 5 A

1003311 (115 V, 50/60 Hz)

1003312 (230 V, 50/60 Hz)

### Instruction sheet

08/22 HJB



- 1 Ventilation slots
- 2 Current and voltage display
- 3 LED display for constant current source (cc)
- 4 Current regulator
- 5 Earthing socket
- 6 DC voltage output
- 7 Fine regulator for DC voltage
- 8 Mains on/off switch
- 9 Coarse regulator for DC voltage g
- 10 LED display for constant voltage source (cv)

### 1. Safety instructions

The DC Power Supply 0 – 20 V, 0 – 5 A 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.



Caution: the low-voltage output of the power supply is not surge-proof if exposed to external voltages of more than 100 V with respect to earth.

- When using the equipment in conjunction with other power supplies, e.g. for operating electron tubes, be careful that no voltages in excess of 100 V with respect to earth are present at the outputs.
- 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 for the first time, 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.
- The instrument may only be connected to the mains via a socket that has an earth connection.
- Before making any connections, check the experiment leads for damaged insulation and exposed wires.
- 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.

- Never cover the air vents in the housing. This is necessary in order to ensure sufficient circulation of air required for cooling the internal components of the equipment.
- The equipment may only be opened/repaired by qualified and trained personnel.

## 2. Description

The 0 – 20 V, 0 – 5 A DC power supply provides a DC voltage up to 20 V and a DC current up to 5 A.

The output voltage and output current are continuously variable. The unit can be used either as a constant voltage source with current limitation or as a constant current source with voltage limitation. When the cv LED is illuminated it shows that the unit is operating as a constant voltage source, whereas the cc LED shows that it is operating as a constant current source. The output is protected against short-circuiting.

The 1003311 DC power supply is for operation with a mains voltage of 115 V ( $\pm 10\%$ ), and the 1003312 unit is for operation with a mains voltage of 230 V ( $\pm 10\%$ ).

## 3. Technical data

Mains voltage:	see rear of housing
DC output:	0 – 20 V, 0 – 5 A
Output power:	100 W
Stability under full load:	$\leq 0,01\% + 5 \text{ mV}$ $\leq 0,2\% + 5 \text{ mA}$
Residual ripple:	$\leq 1 \text{ mV}$ , 3 mA
Displays:	2 x 3 digit LED
Primary fuse:	see rear of housing
Terminals:	4 mm safety sockets
Dimensions:	130x150x300 mm <sup>3</sup> approx.
Weight:	4,7 kg approx.

## 4. Operation

### 4.1 General information

- Before switching on the power supply, set the current and voltage regulators to zero (turn fully to the left).
- Connect the power supply to the experimental setup.
- Do not switch the power supply on until the experiment has been fully assembled.

- Changes to the experimental setup must only be made with the power supply switched off.
- Set the current regulator to give the required current.
- Set the coarse and fine voltage regulators to give the required voltage.
- Before switching off the power supply, set the current and voltage regulators to zero again (turn fully to the left).

### 4.2 Changing the fuse

- Turn off the power switch and unplug the mains plug.
- Unscrew the fuse holder on the rear side of the housing with a screwdriver.
- Replace the fuse and reinsert the holder in its socket.

## 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.

