

## AC/DC Power Supply 0-20 V/5 A (115 V, 50/60 Hz) AC/DC Power Supply 0-20 V/5 A (230 V, 50/60 Hz)

1003561 (115 V, 50/60 Hz)  
1003562 (230 V, 50/60 Hz)

### Instruction sheet

06/15 ALF



- 1 DC voltage display
- 2 DC current display
- 3 DC voltage output
- 4 DC voltage regulator with voltage limit display
- 5 DC current regulator with current limit display
- 6 ON/OFF switch
- 7 AC voltage output
- 8 Overload protection switch
- 9 8-way switch for AC voltage

### 1. Safety instructions

The 0-20 V/5 A AC/DC power supply unit 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 AC/DC power supply unit must be supervised by qualified personnel.



**Caution:** the low-voltage outputs of the power supply are not surge-proof if exposed to external voltages of more than 500 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 500 V with respect to earth are present at the outputs.
- Before using the AC/DC 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 AC/DC 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/repared by qualified and trained personnel.

## 2. Description

The 0-20 V/5 A AC/DC power supply unit provides a continuous DC voltage which can be regulated between 0 V and 20 V at a current of 5 A. The unit is also equipped with a voltage and current limiting system that can automatically switch from one mode to the other and which makes the equipment proof against any prolonged short circuits. The AC voltage can be selected to any of 8 levels: the output is protected by an overload protective switch.

The AC and DC outputs are galvanically isolated from one another. A temperature-controlled fan protects the equipment from overheating.

The apparatus 1003561 is for operation with a mains voltage of 115 V ( $\pm 10\%$ ), and the unit 1003562 is for operation with a mains voltage of 230 V ( $\pm 10\%$ ).

## 3. Technical data

### DC voltage output:

Output voltage:	0-20 V, electronically regulated, continuously adjustable
Load capacity:	0-5 A, protected against short circuit
Ripple voltage U:	$< 10 \text{ mV}_{\text{rms}}$
Connections:	4-mm safety connectors

### AC voltage output:

Output voltage:	2 V, 4 V, 6 V, 8 V, 10 V, 12 V, 15 V, 20 V
Load capacity:	max. 5 A, protected by overload protection switch
Connections:	4-mm safety connectors

### Miscellaneous data:

Mains voltage:	See rear of equipment housing
Primary fuse:	See rear of equipment housing
Dimensions:	235 × 175 × 245 mm <sup>3</sup>
Weight:	8 kg approx.

## 4. Operation

### 4.1 Operation as a DC voltage source:

- Set the current and voltage regulators to the 0 position (turn the knob fully to the left).
- If necessary, short the output.
- Set the current regulator to the desired maximum current.
- Remove the short and connect the load to the output.
- Set the DC voltage regulator to the desired DC voltage.

### 4.2 Operation as a DC current source:

- Set the current and voltage regulators to the 0 position (turn the knob fully to the left).
- Turn the DC voltage regulator knob to its maximum value, or set the desired maximum voltage.
- Connect the load to the output.
- Turn the DC voltage regulator knob to its maximum value.
- Set the DC current regulator to the desired DC current.

### 4.3 Operation as a source of AC voltage:

- Connect the load to the AC current output.
- Turn the switch to the desired AC voltage.

## 5. Fuse

### 5.1 Changing the primary fuse:



Disconnect the plug from the mains supply.

- Remove the outer casings of the housing.
- Replace the faulty fuse with a new one.
- Assemble the outer casings of the housing in reverse order.

### 5.2 Overload protection switch:

If the overload protection switch has tripped:

- Disconnect the cause of the overload.
- Press the overload protection switch.

## 6. Care and maintenance

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

## 7. 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.



