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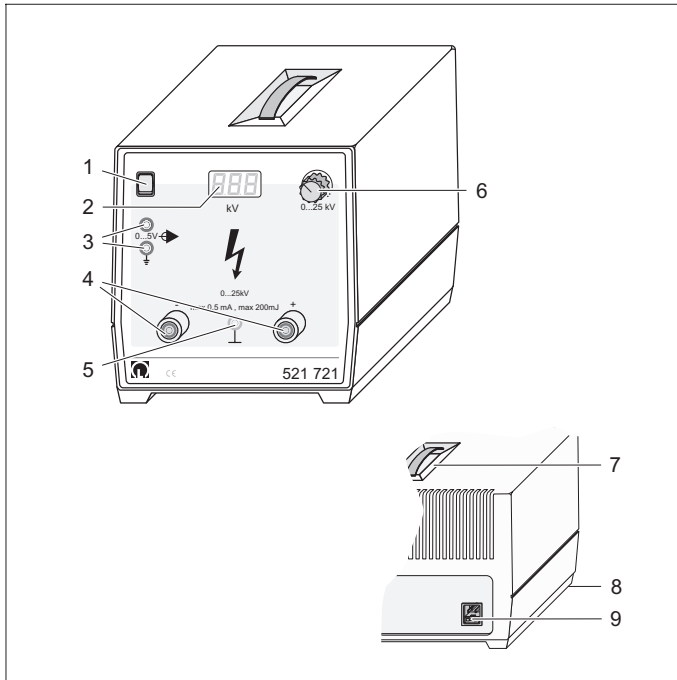
Technical Training  
and Education

Trade



LEYBOLD DIDACTIC GmbH

06/99-V5-Hke/Sel



## Instruction Sheet 521,721

### High Voltage Power Supply 25 kV (521 721)

- 1 Mains switch, with ready indicator
- 2 High-voltage display
- 3 Control input
- 4 High voltage output, potential-free
- 5 Ground connection
- 6 Knob
- 7 Carrying handle
- 8 Mains connection, primary fuse
- 9 Folding feet

## Safety notes

The high voltage power supply 25 kV fulfills the safety requirements for electrical equipment for measurement, control and laboratory use according to DIN EN 61010 part 1 and is constructed so as to fulfill the requirements of protection class II. It is intended for operation in dry rooms which are suitable for electrical operating equipment or installations.

the high voltage power supply supplies a non-hazardous contact voltage. According to EN 61010-1 (VDE 0411) a contact hazard is not deemed to exist at DC voltages greater than 60 V (protective extra-low voltage) when the current through an induction-free resistance of 2 k $\Omega$  is not greater than 2 mA, and additionally, the charge for voltages up to 15 kV is less than 45  $\mu$ As and at voltages above 15 kV the stored energy does not exceed 350 mJ.

Operational safety of the high voltage power supply is ensured when the device is used as intended. However, safety cannot be guaranteed if the device is used improperly or handled carelessly. Whenever there are grounds for assuming that safe operation may no longer be possible (e.g. when the device is visibly damaged), shut off the device immediately .

- Before putting the high voltage power supply 25 kV into operation, always inspect the housing and the control and display elements for visible damage. In the event of malfunctions or visible damage, shut off the device and make sure that it cannot be activated inadvertently.

- Do not connect multiple high voltage power supplies in series.
- Always make sure the high voltage power supply 25 kV is switched off before connecting or altering the experiment setup.
- Set up the experiment so that neither non-insulated parts nor cables and plugs can be touched.
- In the experiment setups, remember that internal ground connection of the ground terminal and the bottom socket of the control input are connected and avoid ground loops.
- Use high voltage cables (501 051) to make all connections, or keep a minimum distance of 9 cm between experiment leads and conductive surface (benchttop, experiment devices) to avoid high-voltage arcing.
- Always set the output voltage to zero before switching on the high voltage power supply 25 kV (turn the knob all the way to the left).
- Do not connect any capacitors with a capacitance of 0.5 nF or more, as at 25 kV a contact hazard exists for 1 nF, and the high voltage power supply already accounts for 0.5 nF.
- Do not connect any high-vacuum tubes, as the x-rays generated in such a configuration can significantly exceed the maximum legal limits.

### 1 Description

The high-voltage power supply 25 kV supplies a voltage which is continuously adjustable up to 25 kV. This is not contact-hazardous, thanks to current limiting (max. short-circuit current 0.5 mA).

The positive and negative poles of the high voltage output are potential-free. Thus the polarity of the output voltage can be selected by connecting one or the other pole to ground.

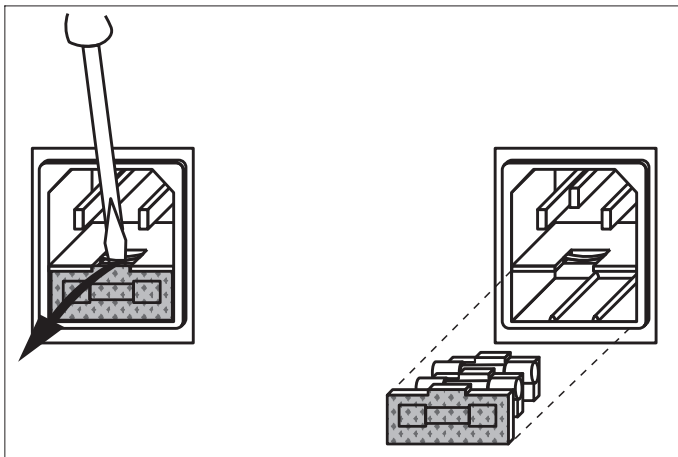
A built-in voltmeter displays the voltage in digital form. The output voltage can be set either using the knob or externally via a signal at the control input.

### 2 Scope of supply

1 High voltage power supply 25 kV

1 Mains lead

### 3 Replacing the primary fuse



To replace the primary fuse on the rear of the housing:

- Unplug the device from the mains.
- Pry out the fuse holder.
- Replace the blown fuse with a new fuse.
- Re-insert the fuse holder.

### 4 Technical data

#### Output:

Output voltage:	approx. 0 to 25 kV (potential-free)
Ground connection:	electrically connected to PE conductor.
Maximum current:	0.5 mA (short-circuit current)
Max. charging energy:	200 mJ (immediately after switching off device)
Discharge time (output voltage zero after switching off device):	max. 30 s
Connections:	4-mm safety sockets

#### Internal voltmeter:

Display:	digital, 3-digit
Measuring range:	0-25 kV
Accuracy:	class 3 (3 % of maximum value)

#### External control:

Input:	4 mm safety sockets, bottom socket electrically connected to PE conductor
Control voltage:	0-5 V DC 0-5 V <sub>p</sub> , max. 1 Hz

#### Mains connection:

Mains voltage	230 V or 115 V, 50-60 Hz convertible at works
Power consumption:	35 VA
Primary protection device:	Fuse, T 0.315 for 230 V T 0.63 for 115 V

#### General data:

Dimensions:	20 cm × 21 cm × 24 cm
Weight:	2,5 kg