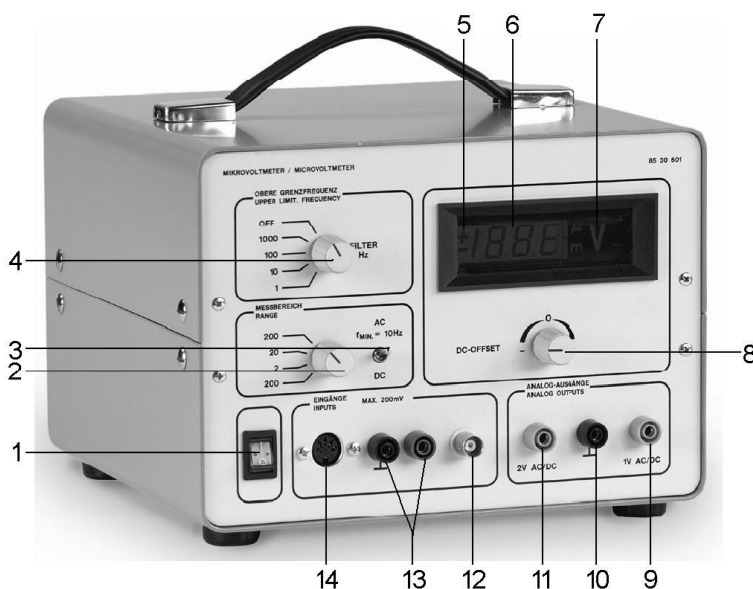


Microvoltmeter

1001015 (115 V, 50/60 Hz)
1001016 (230 V, 50/60 Hz)

Instruction sheet

09/15 SP



- 1 ON/OFF switch
- 2 Measuring range selector
- 3 AC/DC selector switch
- 4 Cut-off frequency regulator
- 5 Polarity display
- 6 Measured value display
- 7 Measuring unit display
- 8 DC offset
- 9 AC/DC output, 1 V
- 10 Earthing/ground
- 11 AC/DC output 2 V
- 12 Input BNC connector
- 13 Input 4-mm safety connector
- 14 Input 5-pin DIN connector

1. Safety instructions

The microvoltmeter 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 microvoltmeter unit must be supervised by qualified personnel.

- Before using the microvoltmeter 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 microvoltmeter 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.
- The equipment may only be opened/repaired by qualified and trained personnel.

2. Description

The microvoltmeter is used to measure and amplify extremely low AC/DC voltages (max. 2 V), e.g. thermo-electric voltages, induced voltages and photo-voltages. The values are indicated by an LED display. In addition, a large-format multimeter can be connected. The measured signal is conveyed via a BNC connector or 4-mm safety connectors. A selector switch makes it possible to carry out AC or DC measurements.

A filter for smoothing the signal or for fixing the upper limit of the measuring frequency can be connected to the measuring input. Four fixed frequencies can be set. The filter makes it possible to reduce noise voltage when conducting AC or DC voltage measurements. Thanks to an additional DIN connector, Hall probes can also be easily connected.

The apparatus 1001015 is for operation with a mains voltage of 115 V ($\pm 10\%$), and the unit 1001016 is for operation with a mains voltage of 230 V ($\pm 10\%$).

3. Technical data

Output voltage:	0 to ± 2 V
Output current:	max. 1 mA
Input impedance:	DC range: 100 k Ω AC range: 900 k Ω
Display:	3.5-figure value LED display
Input connections:	two 4-mm safety connectors BNC connector 5-pin DIN connector
Output connections:	three 4-mm safety connectors
Mains voltage:	see rear of equipment housing
Primary fuse:	see rear of equipment housing
Dimensions:	235 x 250 x 180 mm ³
Weight:	3.3 kg approx.

4. Operation

4.1 Operation as a DC meter

- Turn on the mains voltage
- Set the selector switch to DC.
- Set the measuring range (200 μ V-200 mV).

- Short the input and adjust the zero calibration with the DC offset knob.
- Remove the short and connect the load to the input.

4.2 Operation as an AC meter

- Turn on the mains voltage.
- Set the selector switch to AC.
- Set the measuring range (200 μ V-200 mV).
- Connect the load to the input.

4.3 Operation as a DC instrumentation amplifier

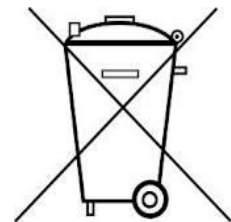
- Turn on the mains voltage
- Set the selector switch to DC.
- Set the measuring range (200 μ V-200 mV).
- Short the input and adjust the zero calibration with the DC offset knob.
- Remove the short and connect a demonstration multimeter (analog display, measuring range up to max. 2 V) to the output.
- Connect the load to the input.

4.4 Operation as an AC instrumentation amplifier

- Turn on the mains voltage
- Set the selector switch to AC.
- Set the measuring range (200 μ V-200 mV).
- Connect a demonstration multimeter (analog display, measuring range up to max. 2 V) to the output.
- Connect the consumer equipment to the input.

5. 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.



- Do not dispose of the battery in the regular household garbage. Follow the local regulations (In Germany: BattG; EU: 2006/66/EG).