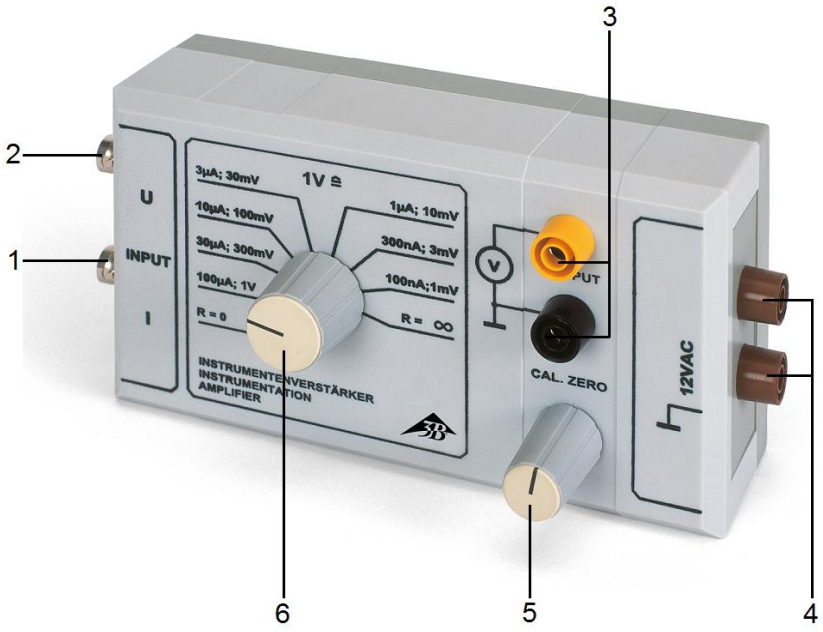
Instrumentation amplifier for student experiments 1001028

Instruction sheet

06/15 SP



1 Current measurement input
2 Voltage measurement input
3 Measurement output
4 Supply voltage voltage, 12 V AC
5 Zero point calibration
6 Measuring range selector

1. Description

The instrumentation amplifier for students' experiments is used in conjunction with a simple voltmeter to measure very small voltages and currents.

The device consists of an operational amplifier and a special preamplifier, owing to which a high gain factor (10^6), a low offset voltage and an excellent long-term stability can be achieved. The amplifier is used for both AC/DC voltage and AC/DC current. A conventional voltmeter (measuring range: 1 V DC or 3 V AC) serves as an indicating instrument. Additional calibration of the device is not required.

2. Technical data

Operating voltage:	12 V AC
Input impedance:	10 kΩ
Amplification factor:	10^6
Input connections:	Two BNC connectors
Output connections:	Two 4-mm safety connectors
Primary fuse:	See rear of equipment housing
Dimensions:	175 × 85 × 65 mm
Weight:	250 g approx.

3. Operation

3.1 Voltage amplifier

- Apply the supply voltage (12 V AC).
- Select the maximum measuring range (100 μA, 1 V), in order to avoid overload.
- Connect the voltmeter (1 V DC or 3 V AC).
- Connect the measurement set-up to input *U*.
- Select the appropriate measuring range.

3.2 Current amplifier

- Apply the supply voltage (12 V AC).
- Select the maximum measuring range (100 μA, 1 V), in order to avoid overload.
- Connect the voltmeter (1 V DC or 3 V AC).
- Connect the measurement set-up to input *I*.
- Select the appropriate measuring range.

4. Storage, cleaning and disposal

- Keep the equipment in a clean, dry and dust-free place.
- Before cleaning the equipment, disconnect it from its power supply.
- Do not clean the unit with volatile solvents or abrasive cleaners.
- Use a soft, damp cloth to clean it.
- 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.