

AMPLIFIER, DC - for Franck Hertz etc.

Cat: LB0070-001 high impedance (μA to mA)

DESCRIPTION:

The IEC **High Impedance DC Amplifier** is used to amplify very small currents (which are difficult to measure) to much larger values which can then be easily measured on a standard low cost bench meter.

The amplification or gain is approximately 1000:1 so that an input current of 1 microamp will supply an output current of approx. 1 milliamp into a normal bench meter or multimeter.

The unit is supplied complete with an internally mounted standard #216 9V battery which is required to supply current only when the instrument is in use.

This Amplifier is used where actual measurement of current is not required, but the changes in current or the searching for maxima or minima is the important function. In the case of the Franck Hertz experiments, the anode current of the tube is plotted to examine the shape of the graph. The actual value of the current in microamps is not important.

The instrument has a high input impedance, so the minimum voltage required on the input circuit is about 0.6V.DC. to make the input circuit operate. If the instrument is connected to a circuit with less than this value source voltage, input current will not flow and output current also will be zero.

LB0070-001 high impedance amplifier



Physical size: 75mmD x 60mmH, internal 9V battery

Weight: 0.25 kg

This amplifier was designed for the Franck Hertz apparatus (AP1870-001) where very small currents need to be monitored. Later models of the Franck Hertz apparatus have an inbuilt sensitive amplifier and this unit is no longer required.



INSTRUCTIONS FOR USE

1) Connect the red and black input terminals **in series with** the circuit carrying the very small current. This would normally be the anode circuit of the Franck Hertz instrument. In just the same way as connecting an ammeter, observe the polarity of the input terminals.

CAUTION:::: DO NOT CONNECT ANY POWER SOURCE DIRECTLY ACROSS ANY TERMINALS.

2) Observing polarity markings, connect the output terminals directly to a 0-10mA bench meter. Operate the circuit and read the meter. The bench meter will be reading approximately 1000 times the current of the input. There are no controls or settings to be performed and the amplification is approximate only.

Battery life should be about the same as the 'shelf life' of the battery. If the input is carrying current but the output no longer operates a meter, the battery probably needs replacement.

To replace the battery, undo the central screw, remove the base and unsnap the old battery from its clip.

Battery: 9V transistor battery, type 216

Designed and manufactured in Australia