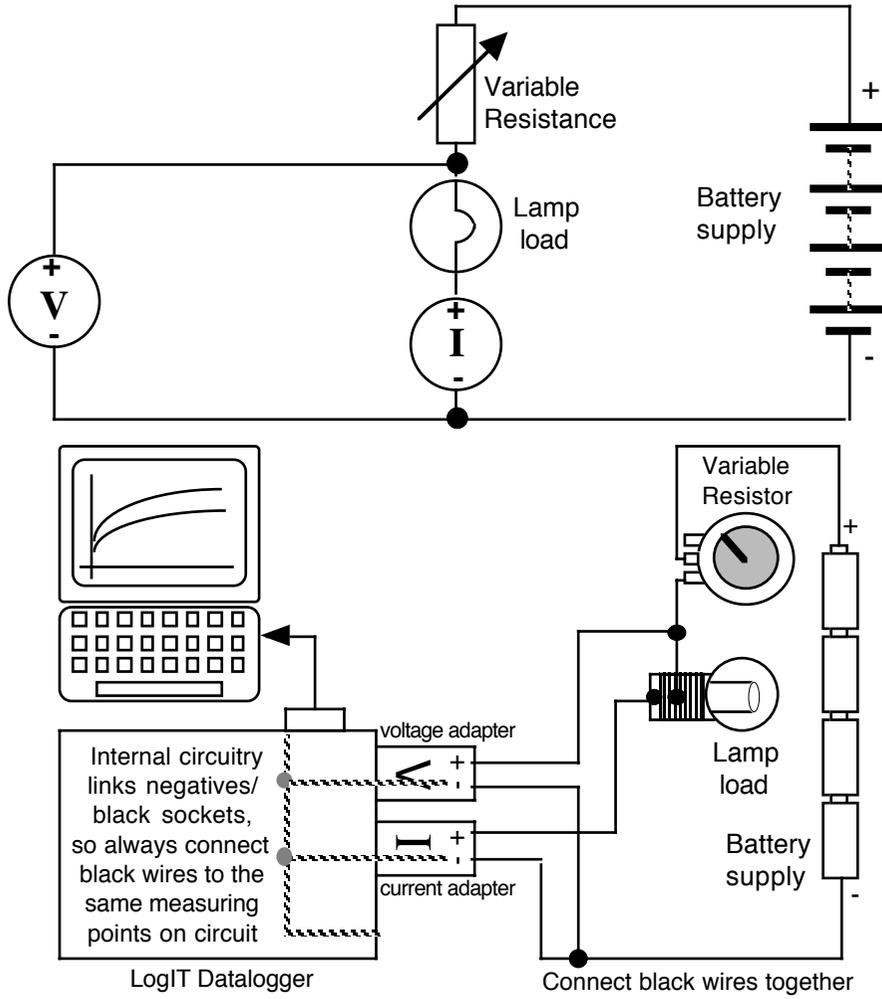


o Measuring Voltage and Current in a battery operated circuit

A circuit and wiring diagram for measuring both the voltage over a lamp and the current passing through it. Always keep the black wires together. Some software will allow you derive a graph from 2 variables, such as a power curve.



For more information please visit our web site

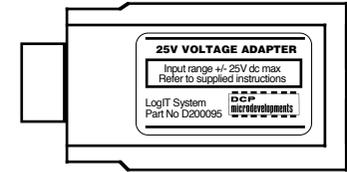


©2000 DCP Microdevelopments Limited, Great Britain.

DCP Microdevelopments Limited
Edison House, Bow Street,
Gt Ellingham,
Norfolk NR17 1JB
Great Britain
Tel: +44 (0)1953 457800
FAX: +44 (0)1953 457888
eMail: support@dcpmicro.com
E&OE DP 190400-02

Microsense® Voltage Probe for LogIT™

DataMeter✓ LIVE✓ LogIT SL✓



□ Set contents

- Voltage Probe Adapter with 4mm sockets (Part No D200095)
- Pair of cables with set of interchangeable plugs, probes and clips
- Instruction leaflet (this document)

□ General information

The Microsense Voltage Probe set measures DC voltages in the range of -25V to +25V DC and is supplied with a set interchangeable plugs and clips.

The adapter is very straightforward to use, but please note the following:

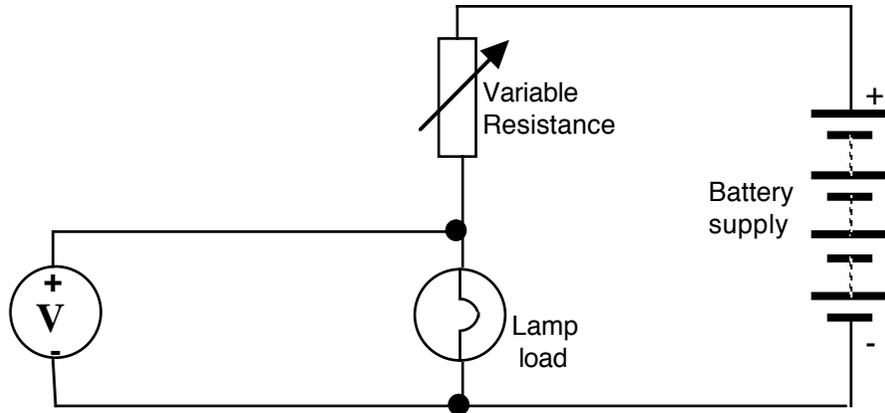
- Digital multimeters have built-in 'damping' or smoothing to effectively cover-up rapid changes of signal or noise so that you can easily read the display. This adapter does not include damping because it could cover small or fast signals you may be trying to measure or record using the datalogger (if you want to hide noise on a graph some software offers smoothing or averaging).
- As with most multi-input instruments the input-ground terminals on the voltage adapter are not isolated from each other or from other equipment which may be indirectly connected via the LogIT (such as a computer). Therefore when using more than one voltage or current adapter the common negative (black) terminal are effectively linked together and care is needed when testing and connecting to circuits to be measured (see inside page).

□ Specifications

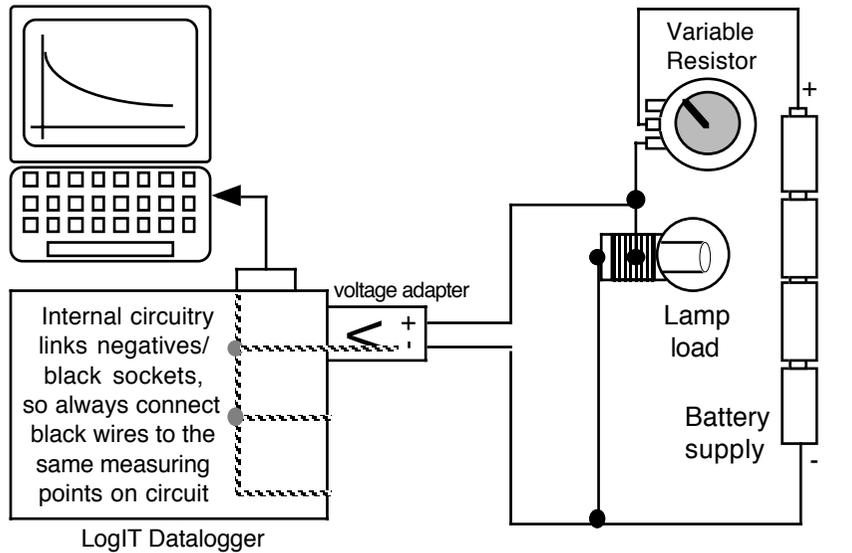
Maximum voltage range	+/- 25 volts DC
Resistance (load)over probes	410kΩ
Nominal accuracy	+/- 1% (Microsense® ID code 43)

o Measuring Voltage in a battery operated (isolated) circuit

A typical circuit diagram for measuring the variable voltage over a lamp.



To apply this in practice using LogIT and a voltage adapter connect as follows:



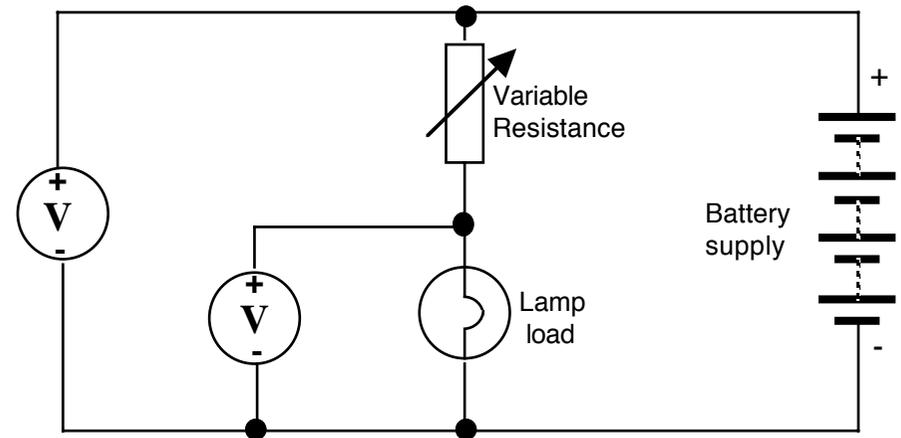
TIP Using an ac mains operated power unit instead of a battery

You could use a mains operated dc supply but beware of 2 potential problems:

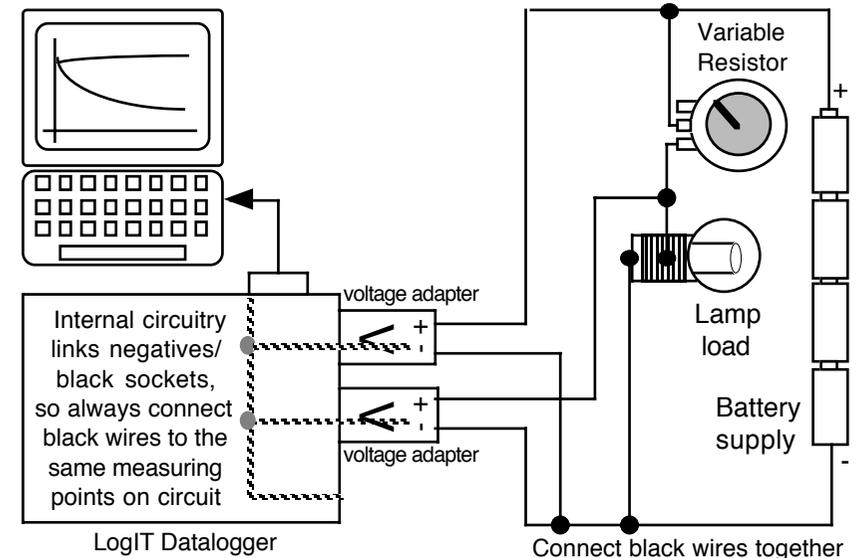
- 1) Any noise or ripple on dc supply will show interference on the display/graph
- 2) you need to ensure that the supply is a double-insulated type otherwise a Common Earth Return could cause a problem with the 'hidden' earth loop connection back into LogIT via the computer's earth. You could use a remote LogIT to store data while disconnected from the computer, then download later

o Measuring Two Voltages in a battery operated supply circuit

A circuit diagram for measuring both the voltage over a lamp and the supply voltage.



This is how you would wire this circuit using LogIT and two voltage adapters.



Important When measuring more than one voltage in the same circuit you must always connect all of the black/negative terminals of the voltage adapters together as they are commoned inside LogIT (just as you have to connect both screen connections together when using a dual trace oscilloscope)