School Of Electronic, Communication and Electrical Engineering

Self Help Guides

Variable Power Supply

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POWER SUPPLIES

There are several power supplies in use in both the Final Year Projects Lab and Telecom's lab. This help sheet covers two of the main types.

These are either fixed or variable outputs. Some have both fixed and variable outputs.

INITIAL SETTINGS

Make sure the switched output is in the off position.

SENSE

Where there are sense terminals, these are normally connected to the respective output terminal as shown in the diagram.

The sense outputs are only used if you have long leads or drawing heavy currents.

The sense connections are used to monitor the output of the power supply. If the leads are long and/or you are drawing a heavy current then there will be a voltage drop through the cables. In such circumstances the sense inputs should be connected to the ends of the supply leads attached to your equipment.

Under most circumstances you should leave the two connected at the power supply terminals.

VOLTAGE SETTING

This is used to set the voltage output you require. Most of the power supplies have a moving coil voltmeter or digital voltmeter monitoring the output.

CURRENT SETTING

Most of the power supplies have a current sensor/trip to prevent damage to your circuit or the power supply.

You should start with a low setting and increase the current while monitoring your circuit. If the power supply starts to deliver a higher current than you are not expecting, switch the output off and check your circuit for shorts or wrongly connected components.

CONNECTIONS

You switch off the output while connecting or removing your circuit from the power supply.

Connecting leads are available in both labs. Be careful not to short anything out when using these connecting leads.

If using bare wire, make sure none of the strands short accross the output terminals. It is best to use the 4mm (banana) connectrs.

It is common practise to use black for 0V or the negative connection and red for the positive connection.