

# EXTECH DC REGULATED POWER SUPPLY

This guide covers the major features of this product - it does not cover all of the available functions. This guide is not intended to replace the original equipment manual. Please refer to the manual for more detailed operating instructions and safety information

## SAFETY NOTES

1. Do not touch exposed energized wires directly with your hands.
2. Do not exceed the maximum voltage or current of any device in your connected circuit
3. Keep the power supply's cooling vents on the side and on top clear of any obstructions.

## EQUIPMENT DESCRIPTION

The Extech DC Regulated Power Supply [1] is capable of providing a variable DC power supply between 0 and 30 Volts. The maximum current output is rated at 3 Amps, meaning that the power supply is capable of supplying a maximum of 90 Watts of power.

$$\text{Power (Watts)} = \text{Voltage (Volts)} \times \text{Current (Amps)}$$

The variable power supply output allows for 2 fixed and 1 variable voltage outputs. Fixed 12 Volt and 5 Volt output terminal jacks are provided, while the remaining output jacks are used for the variable power supply.



Figure 1: Extech DC Regulated Power Supply

## EQUIPMENT OPERATION

### FIXED OUPUTS

The Power Supply has two fixed outputs available at 12 Volts DC and 5V DC [2]. The fixed outputs are rated for continuous current output of 0.5 Amp and a maximum current output of 1 Amp.

1. Ensure that the power supply is switched off.
2. Connect your positive lead to the red terminal, and your negative lead to the black terminal of the desired fixed voltage.
3. Turn on the power supply

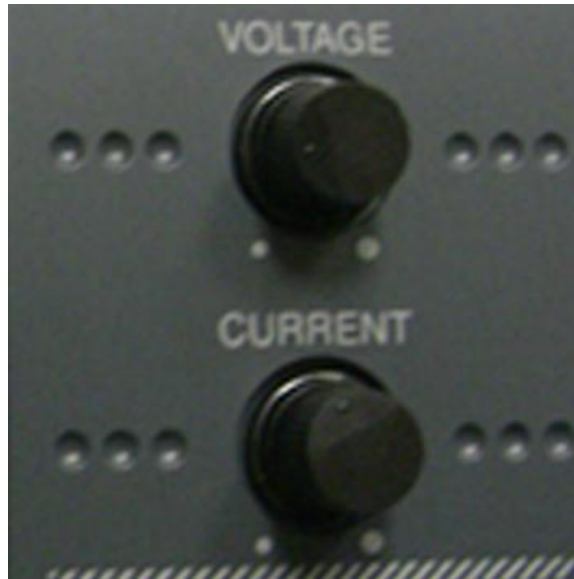


Figure 2: Fixed Voltage Supply

### VARIABLE OUTPUT

The Power Supply has a single variable output, capable of supplying between 0 and 30 Volts DC. The variable output is rated for a maximum current of 3 Amps.

1. Ensure that the power supply is switched off and that the Voltage Adjustment Knob [3] is turned to the furthest counter-clockwise position (0 V DC).



**Figure 3: Voltage and Current Adjustment Knobs**

2. Connect your positive lead to the red terminal, and your negative lead to the black terminal of the variable output jacks [4]



**Figure 4: Variable Power Supply Output Jacks**

3. Turn on the power supply
4. The Voltage and Current Adjustment Knobs [4] are used to adjust the voltage and current respectively. It is impossible to set both the voltage and current at the same time, since the two are related by the circuit resistance.

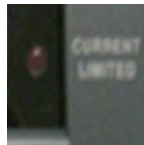
$$\text{Voltage (Volts)} = \text{Current (Amps)} \times \text{Resistance (Ohms)}$$

Since the resistance of the connected circuit should be fairly constant, this means that increasing the voltage will also increase the current, and vice versa.

5. The digital displays will indicate the actual voltage and current readings [5].
6. If current output is set above this range the power supply will limit the current output and the 'Current Limit Indicator' will be lit [6].



**Figure 5: Digital Display**



**Figure 6: Current Limit Indicator**