

# Electric Motor / Generator

## 3V. DC. Max



**EM1760-001**

### Description:

The 'IEC' **ELECTRIC MOTOR / GENERATOR** is a robust small DC motor mounted on a compact plastic base with 4mm socket head connection terminals.

The motor is fitted with a small metal 2 step pulley with large width grooves so that cotton or other fine thread can be wound in the groove as weights are hoisted up from the floor. The pulley provides a choice of two different diameter grooves to provide different performance characteristics.

### The Experiment:

When the device is used as a **MOTOR**, small weights are winched up from the floor. Cotton or other fine thread is tied to the weight and tied around a motor groove. The motor may be connected to a 3V.DC. (max) power source and the amps and volts monitored together with the time taken to winch the weight a certain distance against gravity.

The electrical energy provided to the motor can be calculated and this can be compared with the theoretical energy required to lift the weight that distance. The efficiency of the electric motor system then can be established.

When the device is used as a **GENERATOR**, the weight can be allowed to fall to the floor whilst unwinding its thread and thus turning the motor pulley. While this is occurring, the terminals may be connected so that the voltage and current generated can be monitored together with the time taken for the weight to strike the floor.

The electrical energy emitted from the generator can be calculated and this can be compared with the theoretical energy released when the weight falls that distance over that time. The efficiency of the generating system can be established.

Length: 110mm	Width: 65mm	Height: 39mm	Weight: 100g
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Designed and manufactured in Australia

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1