

Parallel Bulb Base (4 bulbs)

Cat.No. B10-2631-W2

Instruction Manual

Use this product in combination with the best selling “Genecon DUE” a hand-held Generator for more varied demonstration. It is useful in demonstrating for the concept of electricity, energy conversion and the work. The amount of manual force applied in turning the handle of the Genecon determines the brightness of the bulbs connected.

[Specification]

Material: Acrylic clear resin
 Built-in Mini bulb socket: 4 (built in)
 Terminal: 4 (black)
 Size: 180×80×25mm
 Mini bulb(3.8V、300mA) : 4



[Activity 1] Investigation of Energy Conversion

Genecon is a hand-held generator for learning electricity and energy conversion from kinetic one to electrical and light energies. Students generate electrical energy by their hand and are able to feel difference depending on power consumed. This activity is for the energy conversion which is from the electrical energy to the light energy using Parallel Bulb Base having 4 small lamps in combination with Genecon.

1. Rotate the handle of Genecon with only one connection of four lamps on the parallel base.
2. Rotate the handle of Genecon with two connections of four lamps and so on...
3. Students can feel different torque when rotating the handle by the number of bulbs connected.
4. Investigate the relationship among the number of lamps, energy consumption, and energy conversion.

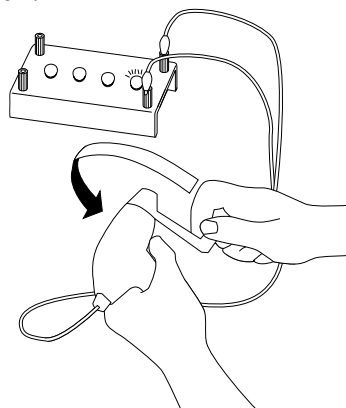


Fig. 1 One lamp connection

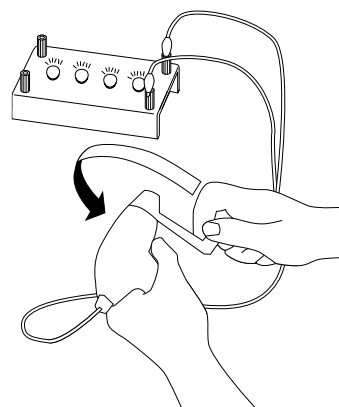
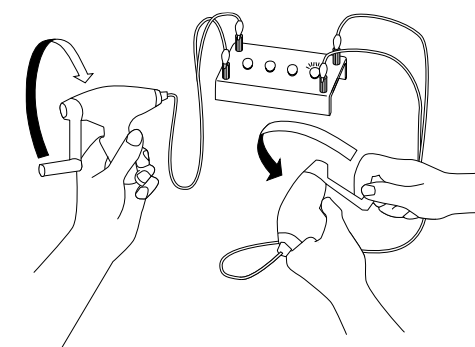


Fig. 2 Four lamps connection

[Activity 2] Realization of Energy Consumption

This activity is the realization of energy loss using Parallel Bulb Base with 4 small lamps by using Genecon. One of the Genecons is used as a generator and the other one is used as a meter in the circuit.

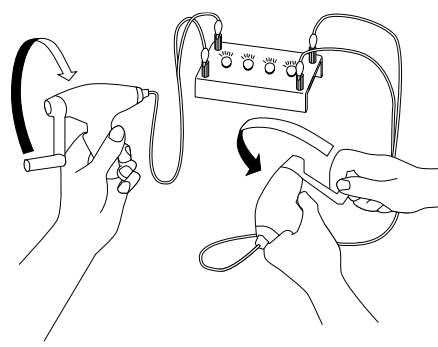
1. The alligator clips of Genecon (A) connect with terminals of the Parallel Bulb Base, and Genecon (B) connects with terminals on the other side.
2. Count the rotation number of the handle of Genecon (B) when the handle of Genecon (A) rotates 10 times in each connection the one lamp connection up to all (four) lamps connection.
3. Students can learn in person that the energy consumption is differed by the number of lamps in the circuit through above experimentation without measuring.
4. With this activity, students will be able to deeply understand the energy consumption using voltmeter and ammeter for the circuit.



Genecon B

Genecon A:10 turnings

Fig. 3



Genecon B

Genecon A:10 turnings

Fig. 4