

Assembling your Electronic Battery Level Detector Sensor

1. Place the Micro controller board (2) on the base plate (1). Install two spring connectors (4) into the holes (VSS1/VCC1) by pushing the narrow end down, as far as they will go as shown in Fig. 2. Connect the red and black battery wires to the corresponding spring connectors by bending the spring over to create a gap into which the metal wire is inserted, as shown:



Fig. 2

Place the Micro controller board - 1
Connect the battery black wire - 2
Connect the battery red wire - 3

2. Install the battery holder on the base plate. Insert two spring connectors and connect the holder wires to holes (PORT/VSS) as shown in Fig. 3:

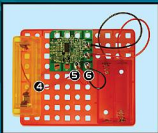


Fig. 3

Place the battery holder on the base plate - 4
Connect holder red wire to "PORT" hole - 5
Connect holder black wire "VSS" hole - 6

4

3. Now, the battery level detector is ready! Insert two AA size batteries to the compartment according to the polarity as shown in figure 4.



Fig. 4

* If no input (change) for about 200 seconds, the unit will turn off automatically. Take out a battery and replace it again for restart the unit.

4. To test battery level detector function, try to insert a battery into the battery holder according to the polarity as shown in Fig. 4. The LED should indicate the battery power level as shown in fig. 5, 6 and 7.



Fig. 5
Low Battery Level



Fig. 6
Medium Battery Level



Fig. 7
High Battery Level

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Electronic Battery Level Detector

What does it do?

This electronic battery level detector measures the output voltage of a battery and shows it with three LED light, from all off at minimum level (flat battery) to all on for a new battery.

How does it work?

The two AA batteries are wired in series to provide 3V of power to the integrated circuit board on which a micro-controller compares the output voltage of the battery being measured to the preset levels. The micro-controller then switches on the corresponding LED light if the voltage is above each level.

Fact files:

This battery tester is for use with AA size alkaline and carbon zinc batteries only. These batteries have their voltage drop gradually as they discharge. So by testing the voltage, we can determine if it is new or near the end of its life. The voltage of a new battery at full capacity is around 1.6V and gradually drops to 1.1V when it should be replaced.

Components:

1. Base plate xl.
 2. Micro controller board xl
 3. Battery holder xl
 4. Spring connector x 4
- Batteries required: 2 X AA (not included)

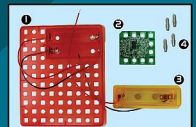


Fig. 3

WARNING!

NOT SUITABLE FOR CHILDREN UNDER 36 MONTHS DUE TO SMALL PARTS. CHOKING HAZARD.
Packaging materials are not toys. Please remove all packaging and packing tags/wires before giving this toy to your child.

CAUTION

Not suitable for children under 3 years - This toy contains a functional sharp point of connecting wires - for use under the direct supervision of an adult. Take extra care during unpacking and use. Please take note: As an extra precaution, check this toy regularly for signs of wear or damage. Read the instructions carefully before use, then follow them and keep them for reference.

Warning!

Do not short-circuit the battery terminals and motor, which may cause overheating. The wires are not to be inserted into socket outlets.

IMPORTANT: Keep these instructions. DO NOT DISCARD.

If at any time in the future you should need to dispose of this product please note that Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. (Waste Electrical and Electronic Equipment Directive)

IMPORTANT: Keep these instructions. DO NOT DISCARD.

1. Only adults should install and replace batteries.
2. Alkaline batteries are recommended.
3. If the device has not been used for a long time, remove the batteries.
4. Do not use rechargeable batteries.
5. Do not mix old and new batteries.
6. Do not mix alkaline, standard (carbon zinc) or rechargeable (nickel cadmium) batteries.
7. Exhausted batteries are to be removed from the toy.
8. Non-rechargeable batteries are not to be recharged.
9. Rechargeable batteries are to be removed from the toy before being charged.
10. Rechargeable batteries are only to be charged under adult supervision.
11. The supply terminals are not to be short-circuited.
12. Only batteries of the same or equivalent type as recommended are to be used.
13. Batteries are to be inserted with the correct polarity.
14. Do not dispose of batteries in fire, batteries may explode or leak.
15. Batteries may explode or leak if misused.

Battery Installation

Insert 2 AA batteries according to the polarity as shown in Fig. 4.

Introduction:

Electronics is the field of manipulating electrical currents and voltages using passive and active components that are connected together to create circuits. Electronic circuits range from a simple load resistor that converts a current to a voltage, to computer central-processing units (CPUs) that can contain more than a million transistors.

