

Assembling your Electronic Motion Sensor

- Place the Micro controller board (2) on the base plate (1). Install two spring connectors (6) 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:

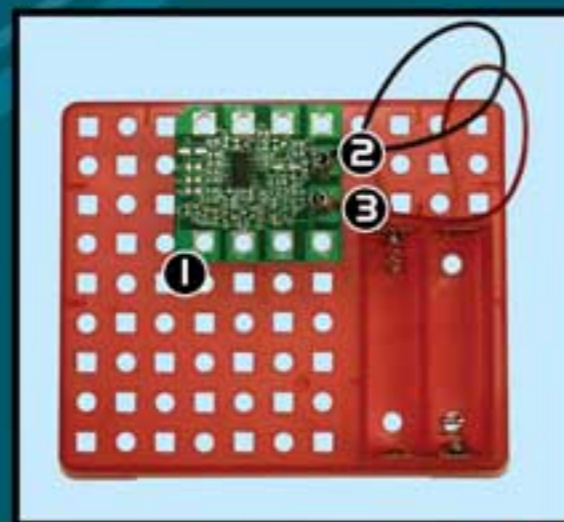


Fig. 2

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

- Install the photo transistor (4) with sensor stand (5) on the base plate. Insert two spring connectors and connect the photo transistor wires to holes as shown in Fig. 3:

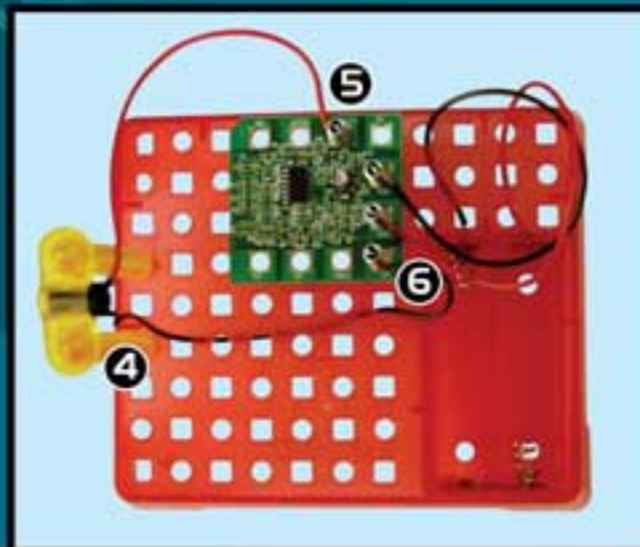


Fig. 3

Assemble the stand with photo sensor and place on the base plate -4
Connect the sensor red wire -5
Connect the sensor black wire -6

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- Install the buzzer (3) on the base plate. Insert two spring connectors and connect the buzzer wires to holes (VCC,OUT) as shown in Fig. 4:

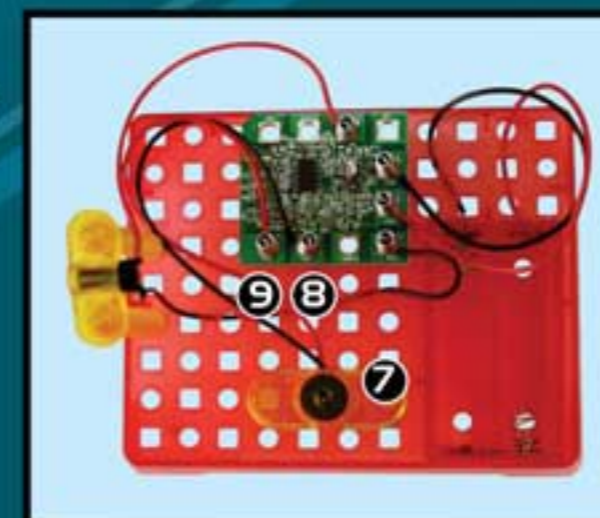


Fig. 4

Place the buzzer-7
Connect the buzzer black wire - 8
Connect the buzzer red wire - 9

- Now, the Motion Sensor is ready. Insert two AA size batteries to the compartment according to the polarity as shown in figure 5.

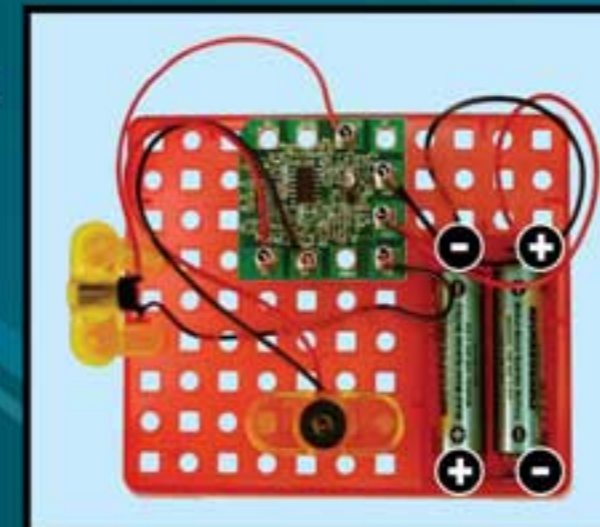


Fig. 5

* If no input (change) for about 20 seconds, the unit will turn off automatically. Take out a battery and replace it again for restart the unit.

- To test the sensor function, try covering the photo sensor with your hand to block the light reaching it. The buzzer will be turned on automatically. Can you think of any other use of it?

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M-28605-ENG

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NO. 28605

Electronic Motion Sensor

WARNING!



NOT SUITABLE FOR CHILDREN UNDER 36 MONTHS BECAUSE OF SMALL PART(S) - 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)

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IMPORTANT: Keep these instructions. DO NOT DISCARD.

- Only adults should install and replace batteries.
- Alkaline batteries are recommended.
- If the device has not been used for a long time, remove the batteries.
- Do not use rechargeable batteries.
- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon zinc) or rechargeable (nickel cadmium) batteries.
- Exhausted batteries are to be removed from the toy.
- Non-rechargeable batteries are not to be recharged.
- The supply terminals are not to be short-circuited.
- Only batteries of the same or equivalent type as recommended are to be used.
- Batteries are to be inserted with the correct polarity.
- Do not dispose of batteries in fire, batteries may explode or leak.
- Batteries may explode or leak if misused.

Battery Installation

Insert 2 AA batteries according to the polarity as shown in Fig. 5.

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.

What does it do?

This electronic motion sensor triggers an alarm when something moves in front of the motion sensor.

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 constantly monitors the signal from the light sensor. When the micro-controller detects a sudden change in light level, such as when you wave your hand in front of the sensor, it turns on the alarm. Due to the electro-optical property of the light sensor, it works best in bright environment and needs a big change in the light level to trigger the alarm. If the colour or brightness of the moving object is similar to the background, it may not be detected.

Fact files:

Motion sensors are widely used in access control such as automatic door, greeting message player and security alarm. Recently it is also integrated into video game controllers to sense the movement of the players. The simple one like the one you just built use visible light for detection while more advanced devices use passive infrared (PIR) to detect the movement of people or use infrared transmitters and receivers to detect movement.

Components:

- Base plate x1
- Micro controller board x1
- Buzzer x1
- Photo Sensor with holder x1
- Sensor stand. x 2
- Spring connector x 6

Batteries required: 2 X AA
(not included)

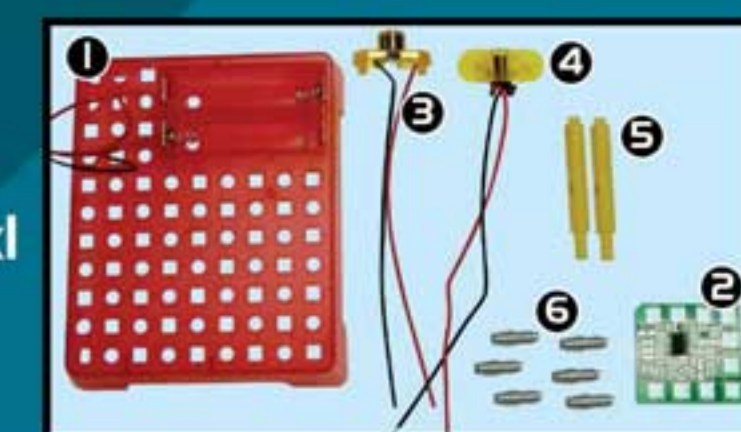


Fig. 1

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