



## Gridfinity battery tester



Unicorn3D

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### Summary

This is a 1x1x5 Gridfinity element which allows to test AA and AAA batteries.

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Tags: [battery](#) [tester](#) [gridfinity](#)

This is a gridfinity element which allows you to test your batteries.

In order to do so, you insert the battery, pull out the sensor, rotate it and push it down on the battery.

In order to create this, you need:

1. Print the three pieces. PLA is sufficient for everything but the sensor. You might want to print the sensor with PETG. Note: you will need to use support for the core.
2. The multimeter (I used [these](#))
3. A [23A battery](#) for operation (it should last a long time)
4. A [23A battery holder](#)
5. See the picture form a button. (Got it from this [button assortment kit](#))
6. 2 Copper washers (about M5 size)
7. A soldering iron
8. Super glue

Once you have everything together:

1. Push the multimeter display into the core and the cables through the hole to the other side.
2. Put the battery holder underneath the multimeter display and push the cables through the hole.
3. Shorten the red cables a bit and solder one cable on the one upper right side of the switch and the other on the lower right side.
4. Solder the yellow cable onto a copper washer and use the super glue to glue that on top of the switch.
5. Push the switch under the opening of the "battery pipe". You can - VERY gently - bend the core a bit to have enough opening to do so. If you want, you could use glue to fix it there in place.
6. From the reduced length cables you should have a piece which is about 8cm (3-4") or longer. Remove the cable mantle for about 5cm (2") and then use a soldering iron to make it "stiff" by applying the soldering metal. Bend at the end about 2mm slightly off and Push it through the sensor. With a bit of wiggling you should see the end at the hole. use pliers to pull it out and solder it to the copper washer. You can then glue that into the head of the sensor.
7. Now push first the cable and then the sensor through the hole of the core, and the sensor can be lowered all the way to the core. Then solder the 2 black cables (shortened) and the sensor cable together.
8. Insert the battery into the holder (watch out for the polarity!) and push the core into the gridfinity casing.

Done!

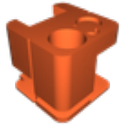
To measure the battery voltage, put the battery in question into the code hole, use your finger nail to lift the sensor, rotate it over the battery and push gently down. The battery should get contact from the sensor and the washer on the button. By pressing the button, the voltmeter will get powered and you can read the voltage.

## Model files



**battery-tester-gridfinity.stl**

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**battery-tester-core.stl**



**battery-tester-sensor.stl**

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