

Hello and thank you for downloading my **GBC Counter app & module** tutorial.

Some important notes:

- This app is optimized for 4.7" screens.** Since this is my phone's screen size and I don't have another phone to test the app on. **But it should work fine on other screen sizes too.**

- The app uses your phone's built in proximity sensor (all the touchscreen smartphones has one) - **so if your phone has a low quality sensor, that might affect the accuracy of the GBC counter.** But since all famous smartphones usually have a good one, chances are this won't be an issue to you.

That's it for the notes – proceed to the next slide for the tutorial!

STEP 1

Build the GBC Counter module using the LDD file included in the archive you've downloaded. **Be focused when you build** – don't accidentally use other parts than you see in the tutorial.

Notes:

- 40 tread links are used in this module.
- Make sure you use the right type of pegs for each step (friction / frictionless).

How to generate instructions in Lego Digital Designer

Download Lego Digital Designer (LDD) and install it.

Then, load the model inside LDD and press F7 on your keyboard.

**After you build the module return to this presentation
and go to the next slide.**

STEP 2

Some information about the module

The module is a simple GBC belt module with a lever mechanism – each ball moves a lever which then blocks the proximity sensor, registering a pass.

The module is designed to work with my phone, the LG Nexus 4 - so you need to slightly modify it.

The only part you need to modify is the location of the phone – if your phone is too short, make a higher base for it. If your phones proximity sensor is located on the opposite side, move the phone so the proximity sensor is where it should be.

Do some testing for the position you've chosen to make sure everything is working correctly.

MAKE SURE that the proximity sensor in your phone (usually located on top of the screen) is being blocked by the lever **only when a ball passes!**

STEP 3

Now its time to install the GBC Counter app!

To install the app, simply visit this download link [using your phone](http://bit.ly/gbcapp). Then download the file and install it.

<http://bit.ly/gbcapp>

[Make sure you check the GBC Counter's video description for app updates!](#)

Since this is not an official Play Store app there are **no auto updates**.

Updates will be released in response your feedback.

STEP 4

Testing!

So you have the module built and the app installed. Now its time to do some testing.

Run the app and place the phone in it's place.

Click "Start" on your phone and then start the motor.

Make sure everything is accurate. If you're having problems, you may need to adjust the phone's position.

The Balls Per Second Value

The app updates the BPS value each time a ball passes. It divides the total amount of balls by the amount of time passed, giving you the average BPS of your GBC.

The app and the module support the GBC standard of 1 ball per second.

By LegoGBC

<http://www.youtube.com/user/LegoGBC>

Special thanks to Yiharua for helping me test the app.