

LPMS-B2

Android App Manual ver. 1.0



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<http://www.lp-research.com>

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I. Introduction

Welcome to the LP-RESEARCH Motion Sensor LPMS-B2 Android application manual.

In this documentation we will explain everything you need to know to quickly connect the LPMS-B2 with an android device. If you have any further questions or comments regarding this documentation please feel free to contact us anytime.

For more information on the LPMS-B2 or other product series, please refer to datasheets and user manuals, available from the LP-RESEARCH website at the following address:
<http://www.lp-research.com>.



II. Document Revision History

Date	Revision	Changes
2016-09-01	1.0	- Initial release.

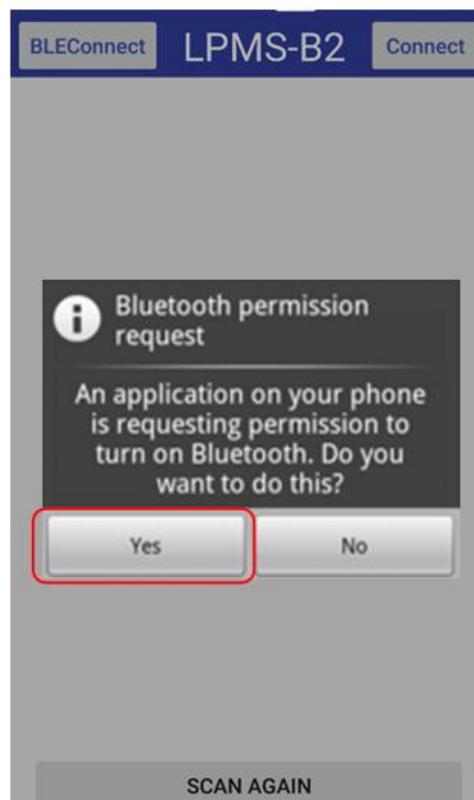
III. Software Instructions

IMPORTANT: This software only supports Android 5.0+.

1) After the installation is completed, please find “My LPMS-B2” application, and click it for open, as shown below.

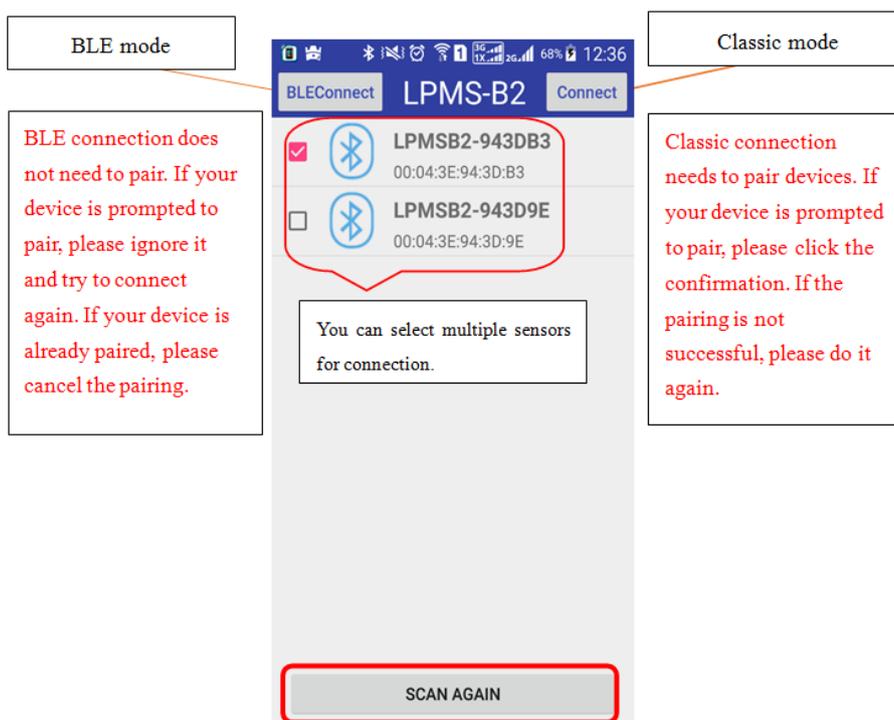


2) If Bluetooth function on the android device has not yet been opened, a notice message will pop out as shown below. Please click “Yes” for going to next step.

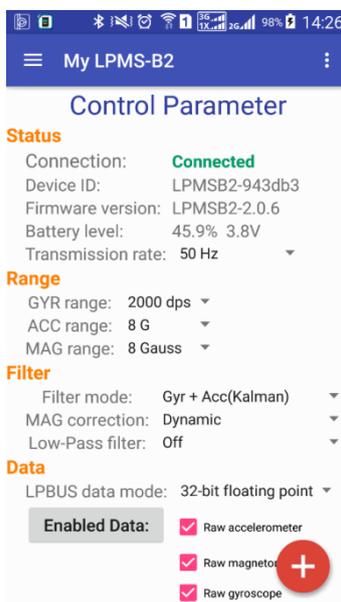


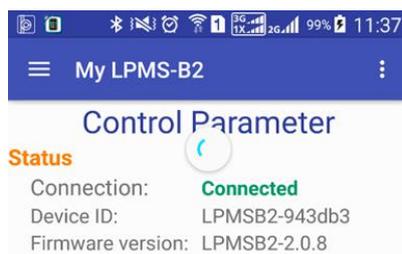
3) Click "SCAN AGAIN" button to discover sensors and select the one that you would like to connect. Two Bluetooth connection modes are available: Classic and BLE. Please choose the corresponding button for sensor connection at different Bluetooth modes. If no any device is discovered, please click the "AGAIN SCAN" button again.

Optional setting: Multiple sensors could be connected by checking multiple sensor IDs.



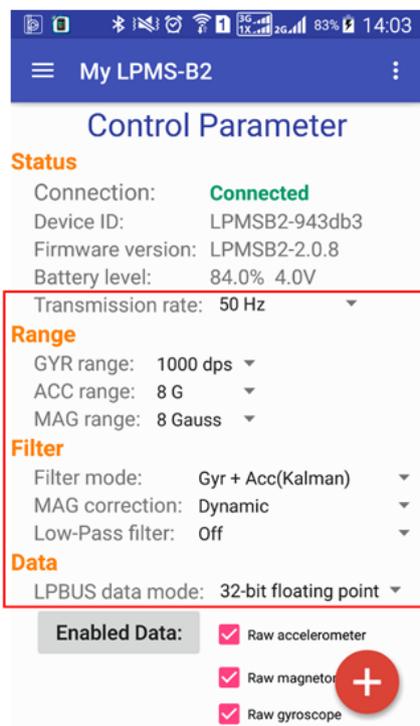
4) After clicking the connection button, it goes to the interface of "Control Parameter" of the connected sensor, as shown below. You can browse and change the sensor setting via the pull-down menus. If there are some parameters are not displayed, please pull down the page to refresh the items.





5) As shown in the following image, the parameters inside the red box are the current setting of sensor. The following parameters are available:

- Transmission rate: data update rate from the sensor
- GYR range: measurement range of gyroscope sensor
- ACC range: measurement range of accelerometer sensor
- MAG range: measurement range of the magnetometer
- Filter mode: sensor data fusion mode
- MAG correction: magnetic interference correction setting
- Low-Pass filter: low pass filter for the output data
- LPBUS data mode: data type of LPBUS protocol



Please pull down the page to refresh these parameters to verify if the setting has been changed successfully.

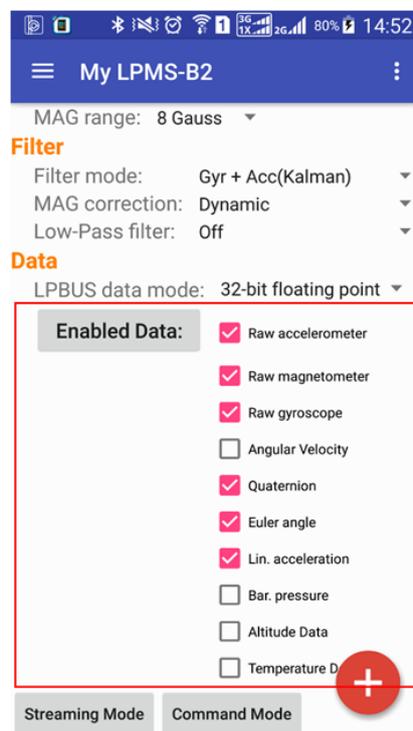
6) As shown in the following image, the part inside the red box is for selecting the types of sensor data in the transmission. The available data types are as follows:

- Raw accelerometer



- Raw magnetometer
- Raw gyroscope
- Angular Velocity
- Quaternion
- Euler angle
- Lin. Acceleration
- Bar. Pressure
- Altitude Data
- Temperature Data

Some of these data are checked as default setting. Please press the "Enabled Data" button to confirm the change of data type setting.



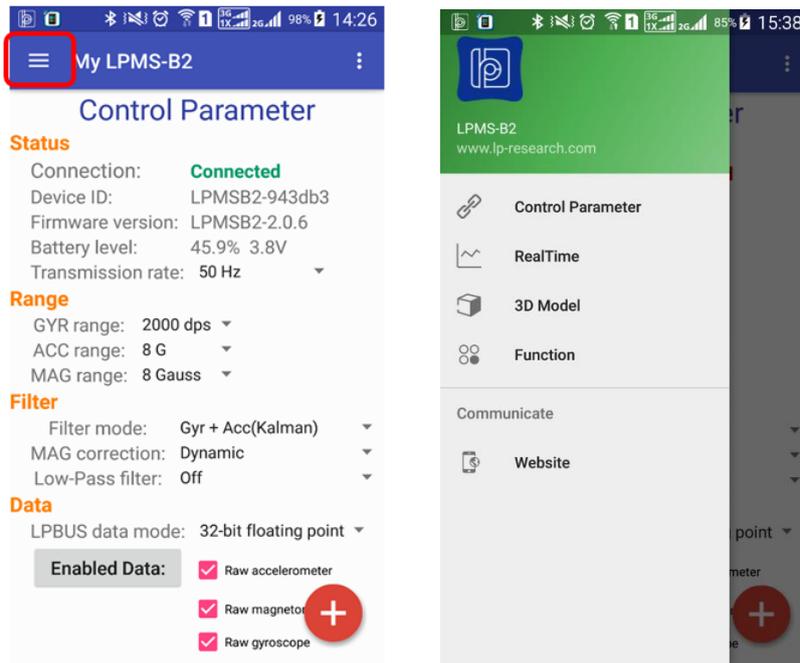
7) Clicking on top left button will pop up the sub menu bar as shown in the following image.

The menu bar has five sections:

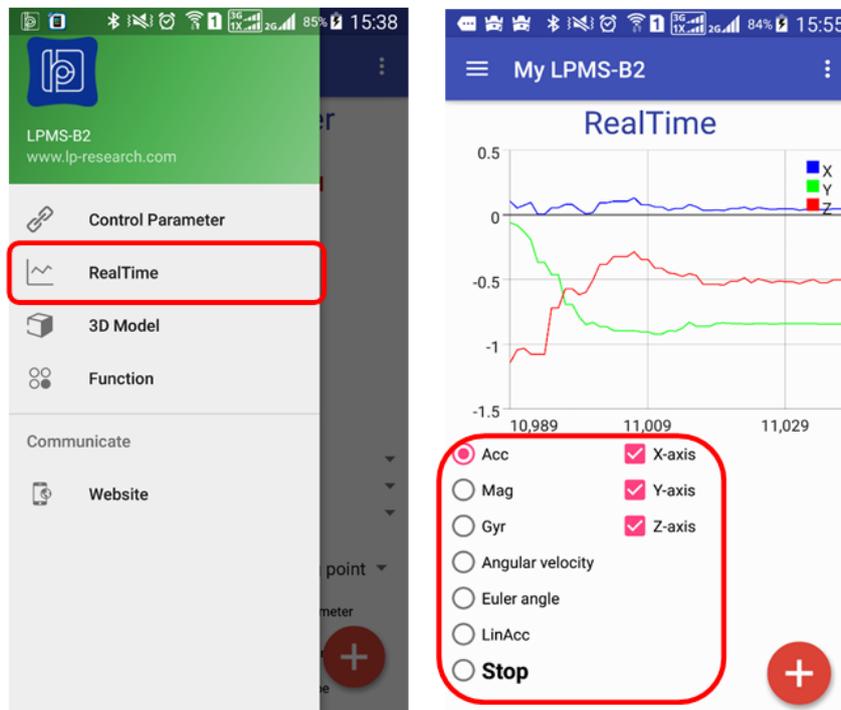
- Control Parameter: as introduced above
- Real Time: real time data visualization in 2D graphs
- 3D Model: sensor orientation visualization in 3D space
- Function: for sensor data logging and orientation reset
- Website: link to official homepage



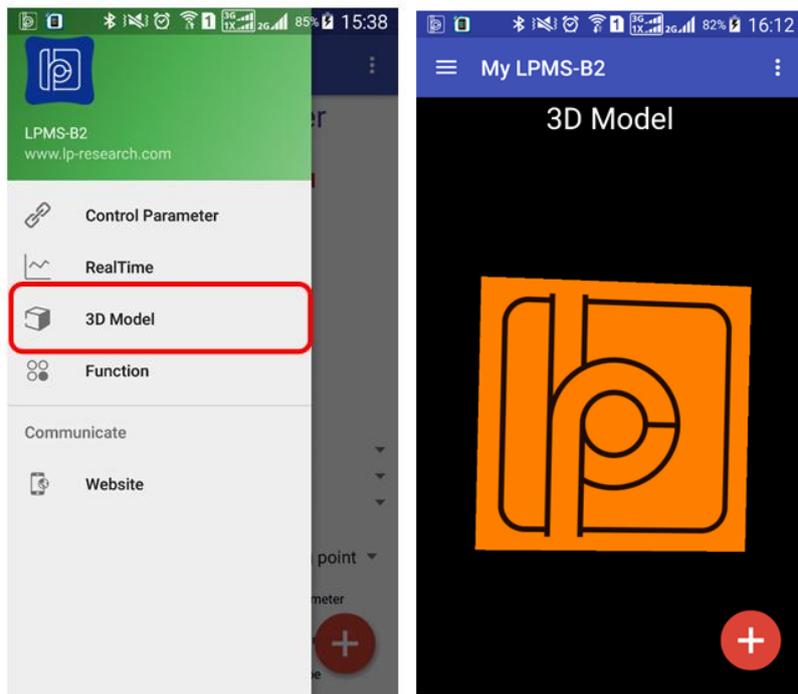
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8) Selecting the "Real Time" section will show the graphs of sensor data in real time, as shown in the following image. The type of visualized data can be changed through enabling the corresponding item.

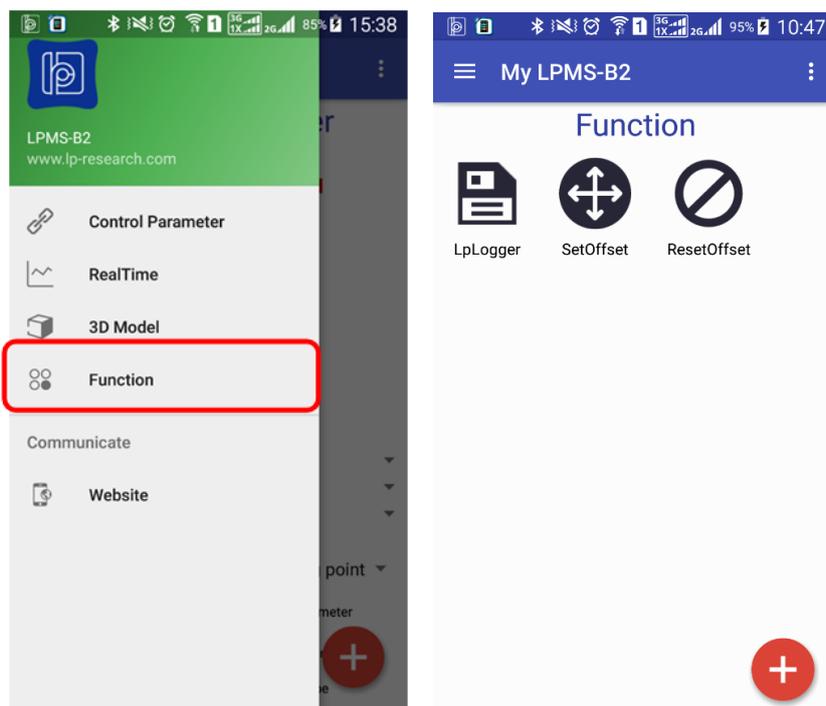


9) Selecting the "3D Model" section will show a 3D object of sensor orientation data in real time, as shown in the following image.



10) Selecting the "Function" section will show three icons corresponding to three different functions, as shown in the following image.

- LpLogger: Sensor data can be saved into mobile memory "LpLogger" folder. The logged data file is named by time and is set at ".csv" format. Clicking once to start data logging and clicking again to stop.
- SetOffset: This function is used for setting the offset orientation of sensor. The change could be recognized by browsing the section of "3D Model".
- ResetOffset: This function is used for cancelling the function of SetOffset.



11) Selecting the "Website" section will connect to our official webpage where more detailed information of our products is introduced.

12) Setting of multiple sensor connections. Sensors can be disconnected or connected by clicking on the floating button "+" on the bottom right side. Clicking on the sensor ID button to connect the corresponding sensor, or disconnect the sensor with long pressing. If the added sensor connection is successful a "Sensor xx connected" message will be prompted, otherwise a failure prompt will show up, seen as the image below.

