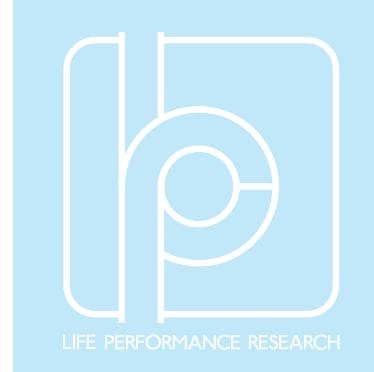# LPMS-B

LPMS Wireless Miniature Motion Sensor / IMU / AHRS with Bluetooth Connectivity

The LPMS-B is an innovative and high performance miniature wireless motion sensor. Based on Bluetooth technology, LPMS-B can easily communicate with other host systems like PCs, mobile devices etc. LPMS-B perfectly fits both machine and human motion measurements for size and cost sensitive applications.
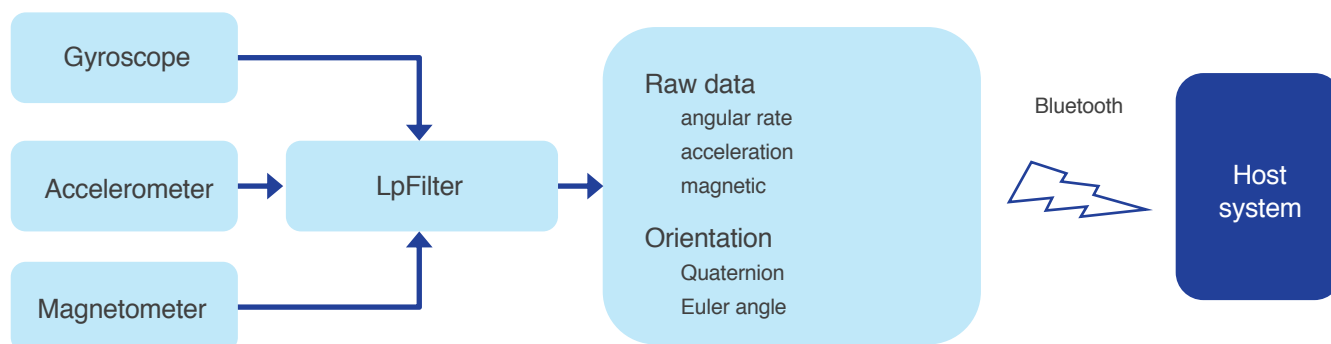

Key Features

- MEMS miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer and magnetometer
- Accurate on -device orientation calculation using the LpFilter
  (based on an extended Kalman filter).
- High sampling rates of up to 300 Hz.
- Wireless communication interfaces: Bluetooth
- SDK and programming libraries for Windows, Linux, Android, etc.
- Affordable price

Applications

- Human motion capture
- Health care: health monitoring equipment, fitness devices, etc.
- Medical and sport skill training
- Vehicle monitoring
- Aerospace navigation
- Virtual reality

Sensor Specifications

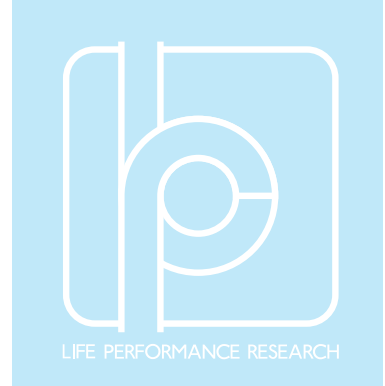|	LPMS-B	LPMS-B OEM
Size	45x37x20 mm	28x20x12 mm
Weight	34 g	7 g
Bluetooth	2.1 + EDR, 2.412 - 2.484 GHz	
Communication Distance	< 18 m	
Orientation range	360° about all axes	
Resolution	< 0.05°	
Accuracy	< 0. 5°(static), < 2°RMS (dynamic)	
Accelerometer	3-axis,± 20 / ± 40 / ± 80 / ± 160 m/s², 16 bits	
Gyroscope	3-axis,± 250 / ± 500 / ± 2000°/s, 16 bits	
Magnetometer	3-axis,± 130～± 810uT, 16 bits	
Pressure sensor	300～1100hPa*	
Data output format	Raw data / Euler angle / Quaternion	
Sampling rate	0～300 Hz	
Power Consumption	290 mW @ 3.3 V	
Power supply	Lithium bat. > 10h (3.7 @ 800mAh)	
Temperature range	-20 ～+60°C	- 40～+80°C
Connector	Micro USB, Type B	
Software	C++ library for Windows, Java library for Android, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.	

*An optional pressure sensor is available for altitude measurement.

Package
- LPS-B sensor x 1
- Recharger x 1
- Cable x 2
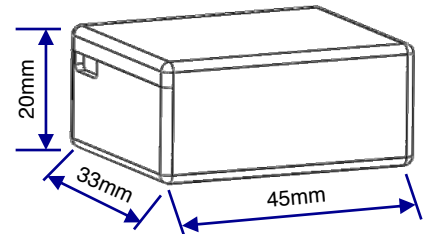- User guide card
- Warranty (1 year)

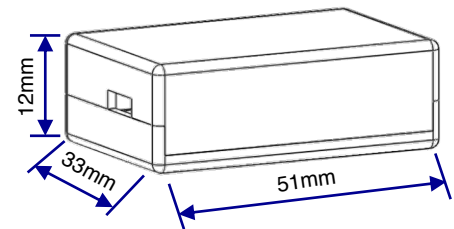Multiple LPMS-CUs can be connected together while using CAN Bus interface.
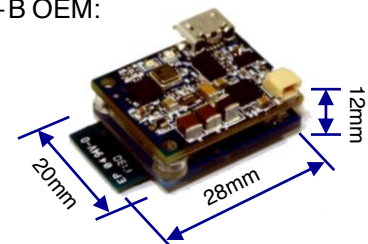
Mechanical drawing

LPMS-B:

Recharger (20g):

LPMS-B OEM:

LpmsControl Utility Software