LPMS-B2

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

The LP-Research Motion Sensor Bluetooth version 2 (LPMS-B2) is a miniature wireless inertial measurement unit (IMU) / attitude and heading reference system (AHRS). The unit is very versatile, performing accurate, high speed orientation and relative displacement measurements.

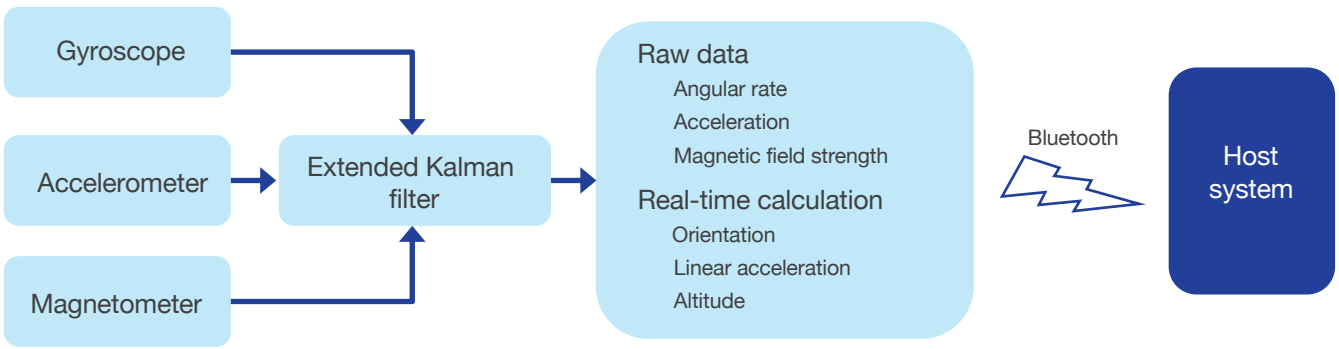
Through the use of three different MEMS sensors (3-axis gyroscope, 3-axis accelerometer and 3-axis magnetometer) drift-free, high-speed orientation data around all three axes is achieved. Additionally temperature and barometric pressure sensors allow accurate determination of the unit's altitude.

Key Features

- MEMS miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer, magnetometer, temperature and barometric pressure sensor in one unit
- Real-time, on-device calculation of sensor orientation, linear acceleration and altitude
- Data output rates of up to 400Hz
- Wireless communication via Bluetooth 2 and Bluetooth LE (Low Energy / 4)
- Capability to record measurement data on device flash memory
- Control application and SDK for Windows, Linux and mobile

Applications

- Human motion capture
- Internet of Things (IoT)
- Sports performance evaluation
- Medical diagnosis



For pricing or any further information, please contact Omni Instruments Ltd.

Measurement and data acquisition solutions

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Wester Gourdie Industrial Estate,
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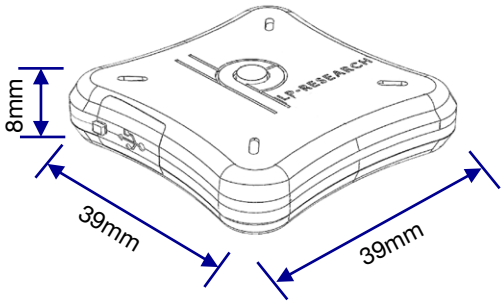
Sensor Specifications

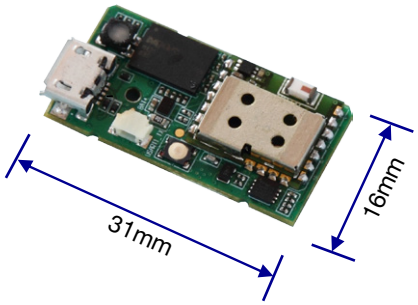
	LPMS-B2	LPMS-B2 OEM
Size	39×39×8mm	16×31×4mm
Weight	12g	2g
Bluetooth	Bluetooth 2 / Low Energy (LE)	
Communication distance	< 20 m	
Orientation range	Roll: ±180°; Pitch: ±90°; Yaw: ±180°;	
Resolution	< 0.01°	
Accuracy	< 0. 5°(static), < 2° RMS (dynamic)	
Accelerometer	3-axis, ±2 / ± 4 / ± 8 / ± 16 g, 16 bits	
Gyroscope	3-axis, ± 125 / ± 245 / ± 500 / ± 1000 / ± 2000 dps, 16 bits	
Static orientation stability	9 °/hour	
Gyroscope noise density	0.007 dps/√Hz	
Magnetometer	3-axis, ± 4 / ± 8 / ± 12 / ± 16 gauss, 16 bits	
Pressure sensor	300-1100 hPa	
Data output format	Raw data / Euler angle / Quaternion	
Data output rate	up to 400Hz	
Power consumption	< 132 mW @ 3.3V	
Power supply	Lithium battery >6h (3.7 v@ 230mAh)	3.3-5.5V DC
Temperature range	-20 to +60°C	-40 to +80°C
Power Connector	Micro USB, Type B	Micro USB, Type B; SM02B-SURS-TF;
Certification	FCC, CE	
Software	C++ library for Windows, Java library for Android, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.	

Mechanical Drawing

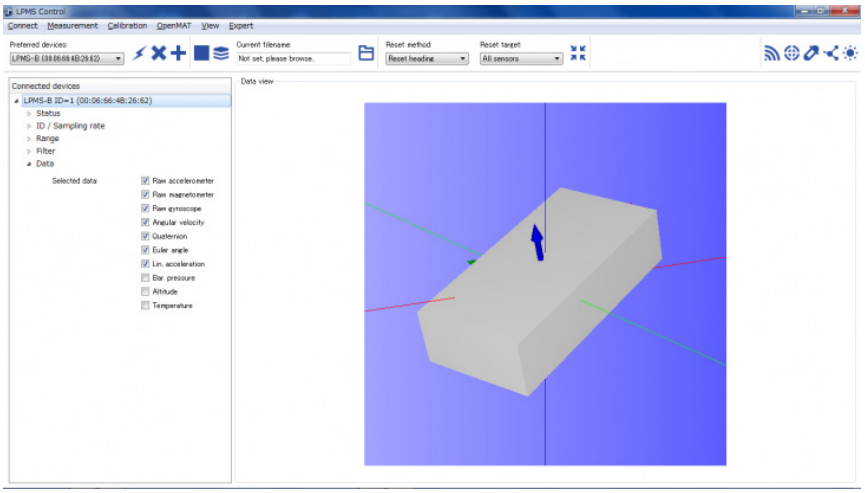
LPMS-B2:



LPMS-B2 OEM:



LpmsControl Utility Software



Package

- LPMS-B2 sensor x 1
- User guide card x 1
- Cable x 1
- Box x 1
- Warranty (1 year)

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