

# LPMS-USBAL2

## LPMS Rugged Wired Miniature Motion Sensor / IMU / AHRS with USB Connectivity

The LPMS-USBAL2 is an innovative and high performance motion sensor in rugged housing pattern. With widely used USB interface for data communication, the LPMS-USBAL2 perfectly fits both machine and human motion measurements for size and cost sensitive applications.

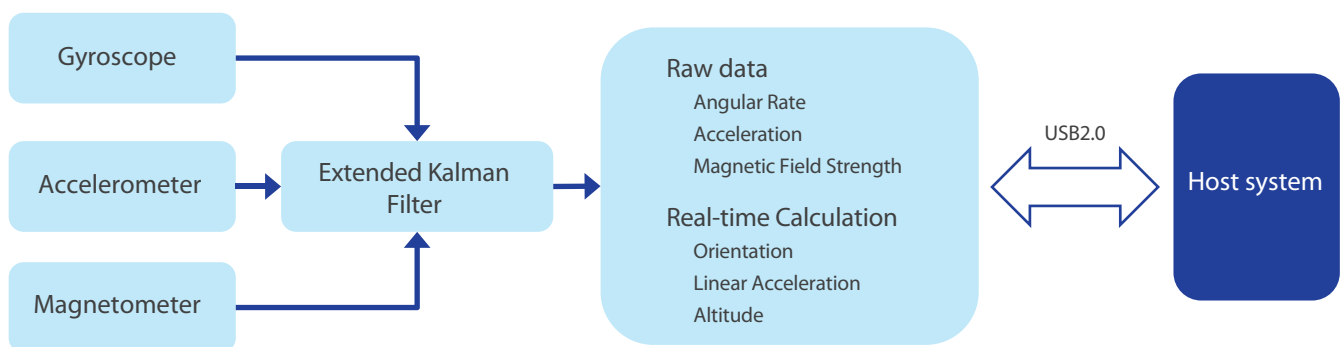


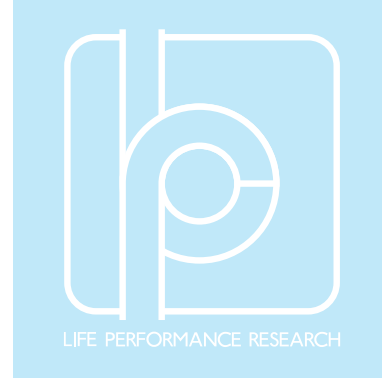
### Key Features

- MEMS miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer, 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
- Variety of wired interfaces: USB
- Control application and SDK for Windows, Linux

### Applications

- Human motion capture
- Internet of Things (IoT) devices
- Sports performance evaluation
- Drone flight control

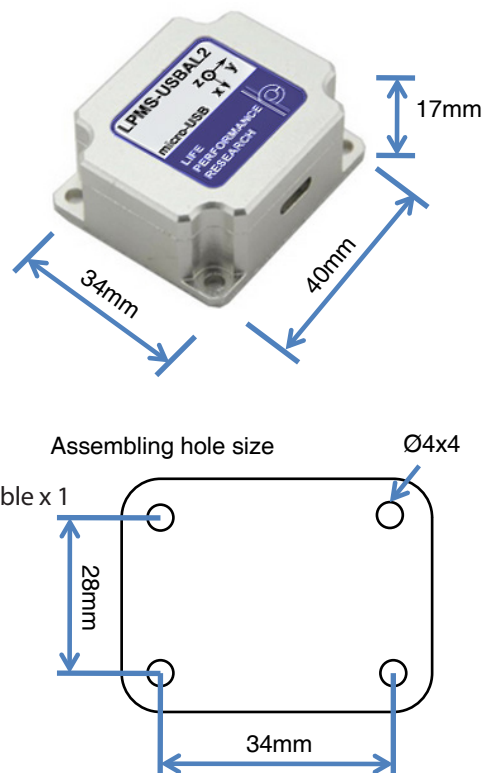




## Sensor Specifications

Wired interface	USB 2.0
Max. baudrate	921.6kbit/s
Communication protocol	LpBus
Size	40 x 34 x 17 mm
Weight	36 g
Orientation range	Roll: $\pm 180^\circ$ ; Pitch: $\pm 90^\circ$ ; Yaw: $\pm 180^\circ$
Resolution	$< 0.01^\circ$
Accuracy	$< 0.5^\circ$ (static), $< 2^\circ$ RMS (dynamic)
Accelerometer	3-axis, $\pm 2 / \pm 4 / \pm 8 / \pm 16$ g, 16 bits
Gyroscope	3-axis, $\pm 125 / \pm 245 / \pm 500 / \pm 1000 / \pm 2000$ dps, 16 bits
Magnetometer	3-axis, $\pm 4 / \pm 8 / \pm 12 / \pm 16$ gauss, 16 bits
Pressure sensor	300-1100 hPa
Data output format	Raw data / Euler angle / Quaternion
Data output rate	up to 400Hz
Power consumption	$< 182$ mW @ 3.3V
Power supply	5 V DC
Connector	Micro USB, type B
Case material	Aluminum
Temperature range	$-40 \sim +80^\circ\text{C}$
Software	C++ library for Windows, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.

## Mechanical drawing



## Package

- LPMS-USBAL2 sensor x 1
- User guide card x 1
- Cable x 1
- Box x 1
- Warranty (1 year)



## LpmsControl Utility Software

