



# LPMS-CU

## LPMS Wired Miniature Motion Sensor/IMU/AHRS with CAN Bus and USB Connectivity

The LPMS-CU is an innovative and high performance miniature motion sensor. Integrating CAN Bus and USB interface into one unit, the LPMS-CU perfectly fits both machine and human motion measurements for size and cost sensitive applications.

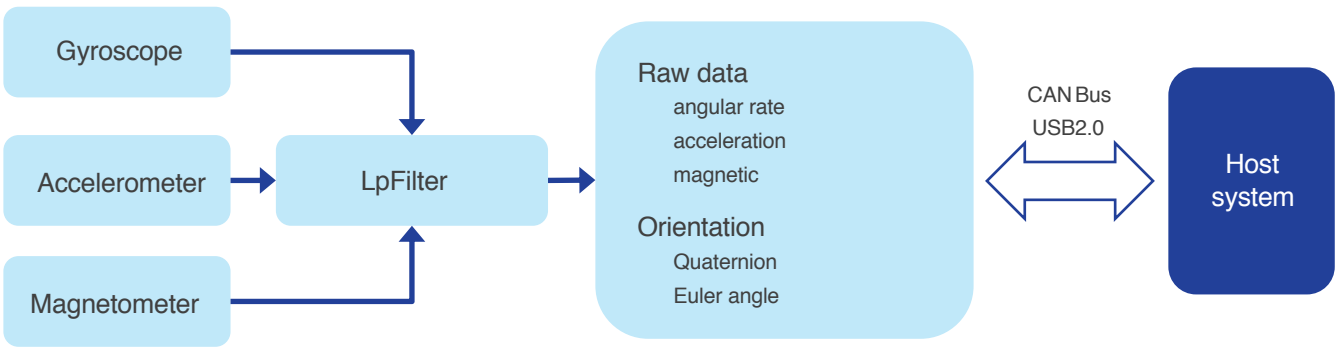


### Key Features

- 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.
- Variety of wired interfaces:USB and CAN Bus.
- USB and and programming libraries for Windows, Linux, Android, etc.
- SDK and programming libraries for Windows, Linux, Android, etc.
- Affordable price.

### Applications

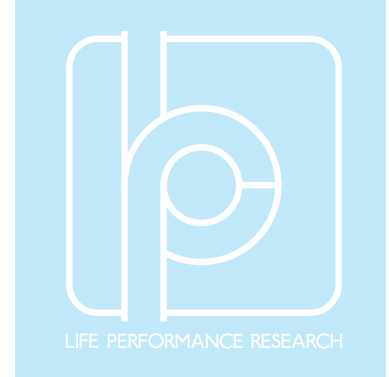
- Human motion capture
- Health care: health monitoring equipment, fitness devices, etc.
- Medical and sport skill training
- Vehicle monitoring
- Aerospace navigation
- Virtual reality



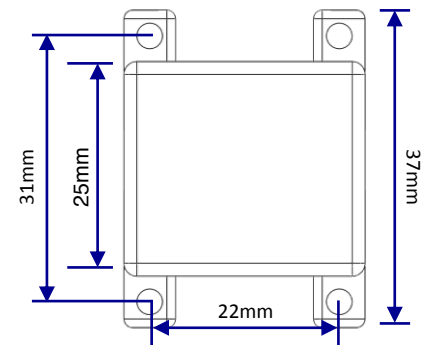
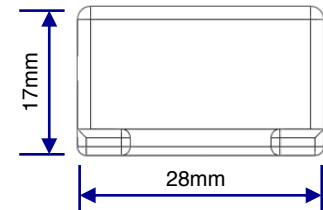
## Sensor Specifications

Wired interface	CAN Bus	USB 2.0
Max. baudrate	1Mbit/s	921.6Kbit/s
Communication protocol	LpCAN / CANOpen	LpBus
Size	37 x 28 x 17 mm	
Weight	12.8g	
Orientation range	360° about all axes	
Resolution	< 0.05°	
Accuracy	< 0.5°(static), < 2°RMS (dynamic)	
Accelerometer	3-axis, ± 20 / ± 40 / ± 80 / ± 160 m/s <sup>2</sup> , 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	165 mW @ 5 V	
Power supply	5 ~ 18 V DC	
Connector	Micro USB, type B	
Case material	Polyastayrolplastic	
Temperature range	- 40 ~ +80° C	
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.



## Mechanical drawing



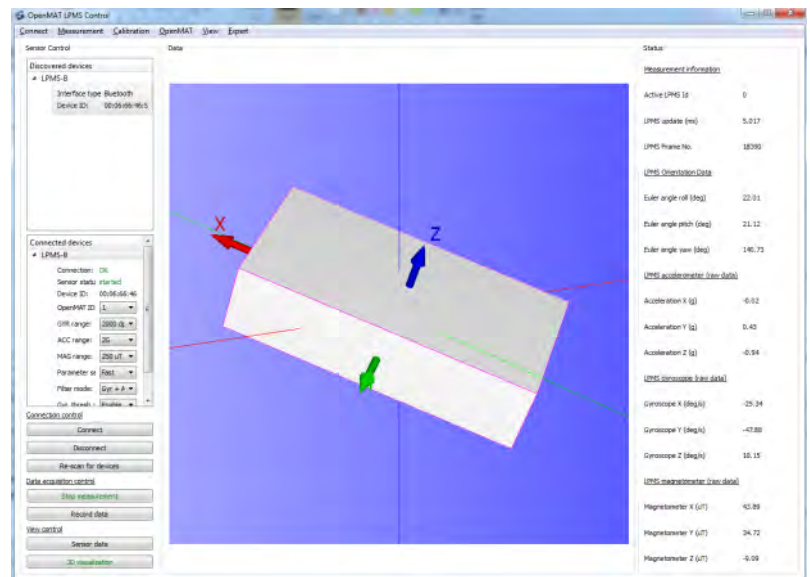
## Package

- LPS-CU sensor x 1
- Cable x 1
- User guide card
- Warranty (1 year)



Multiple LPMs-CUs can be connected together while using CAN Bus interface.

## LpmsControl Utility Software



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