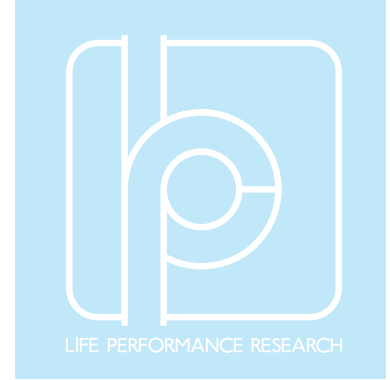# LPMS-URS2

LPMS Rugged Wired Miniature Motion Sensor / IMU / AHRS with RS232 Connectivity

The LPMS-URS2 is an innovative and high performance miniature motion sensor. Integrating RS232 and USB interfaces into one unit, the LPMS-URS2 perfectly fits both machine and human motion measurements for size and cost sensitive applications.
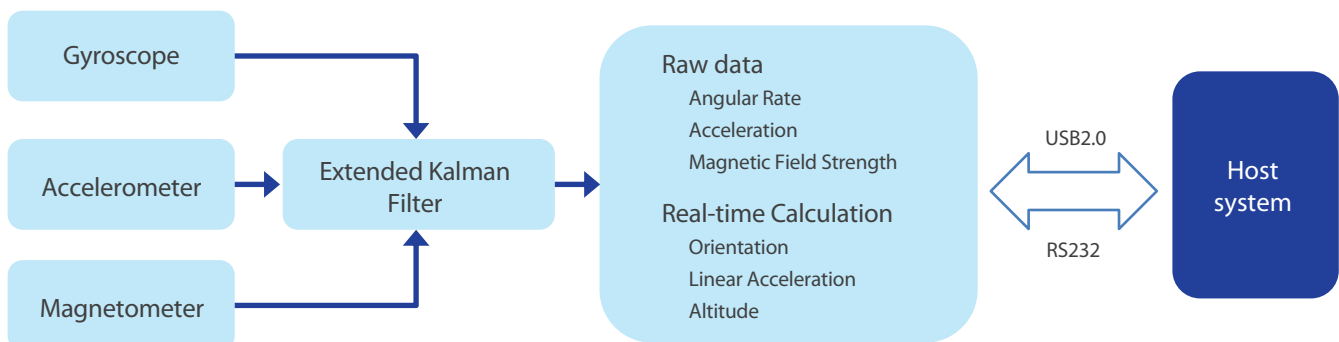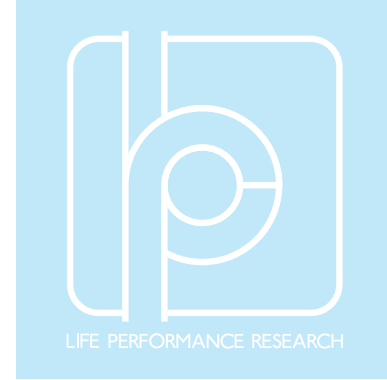

Key Features

- 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 and RS232

- Control application and SDK for Windows, Linux

Applications

- Human motion capture

- Internet of Things (IoT) devices

- Sports performance evaluation
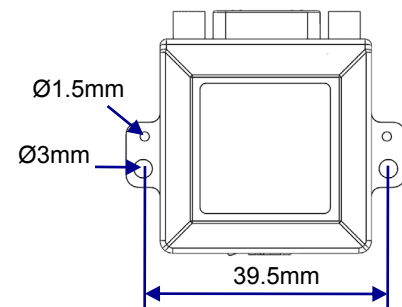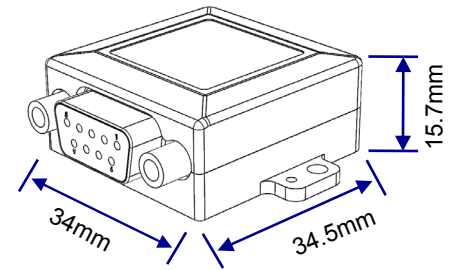
- Drone flight control

Sensor Specifications

Wired interface	RS232	USB
Max. baudrate	921.6Kbit/s	921.6Kbit/s
Communication protocol	LpBus	LpBus
Size	34 x 34.5 x 15.7 mm	
Weight	17.6 g	
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	
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	< 145 mW@3.3V	
Power supply	5 V ~18 V DC	5 V DC
Connector	DB9 female	Micro USB-B
Case material	ABS Plastic shell	
Temperature range	- 40 ~ +80°C	
Software	C++ library for Windows, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.	

Mechanical drawing

LpmsControl Utility Software

Package

- LPMS-URS2 sensor x 1
- User guide card x 1
- Cable x 1
- Box x 1
- Warranty (1 year)