

# LPMS-RS232AL3

RS232 & USB Connectivity / Waterproof Wired Motion Sensor / IMU (Inertial Measurement Unit)  
/ AHRS (Attitude and Heading Reference System)

The LPMS-RS232AL3 is an innovative, high-performance, compact motion sensor equipped with a waterproof housing.

Integrating RS232 and USB interfaces into a single unit, the LPMS-RS232AL3 excels at measuring machine motion and is ideal for industrial applications.

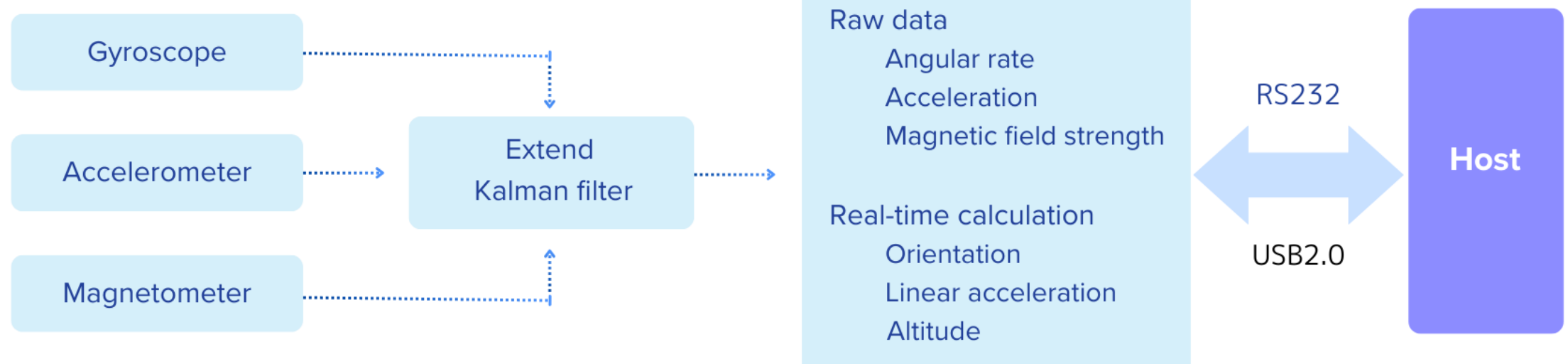


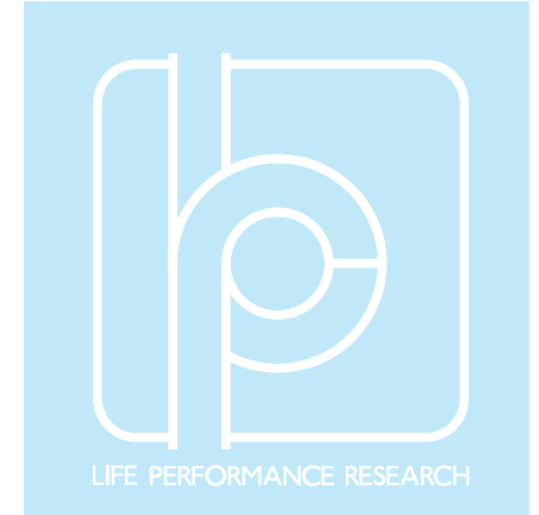
## Key Features

- Compact MEMS IMU with built-in sensor fusion
- Integrates 3-axis gyroscope, accelerometer, magnetometer, temperature, and pressure sensors
- Real-time on-device computation of orientation, acceleration, and altitude
- Up to 500 Hz data output rate
- Dual communication interfaces: RS232 and USB
- Free software and SDK available for Windows and Linux

## Applications

- Balance control of robotic arms
- Navigation for AGVs and other mobile platforms
- Driving data measurement for racing cars
- Balance control for manipulators

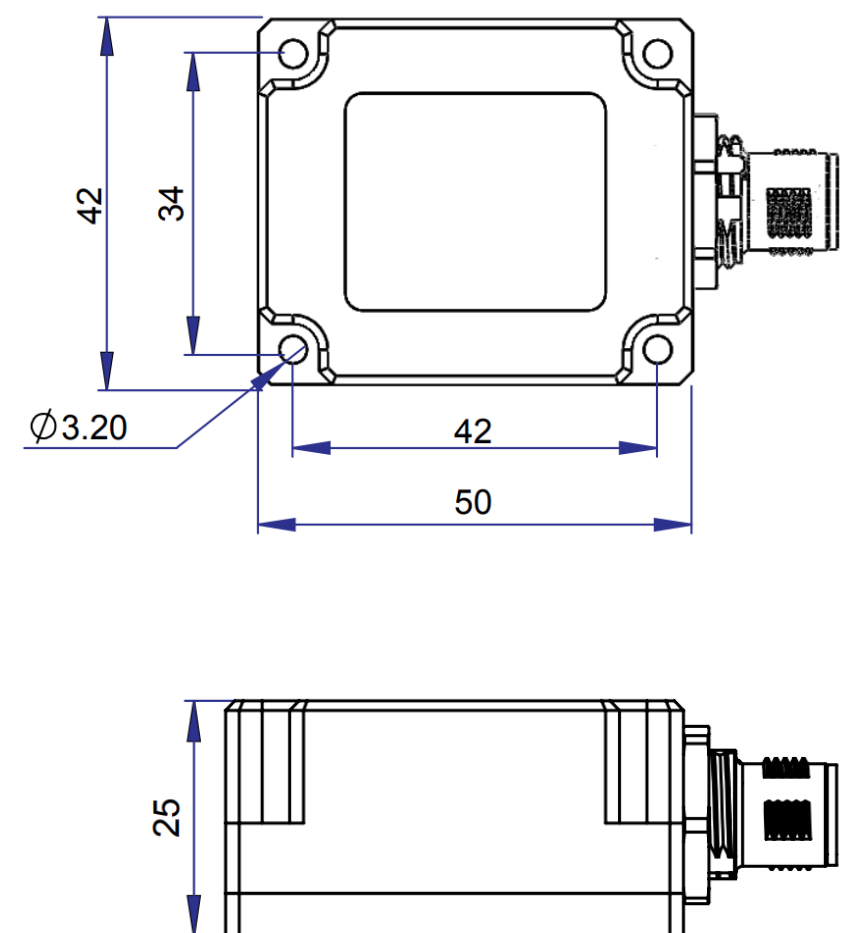




## Sensor specification

Part number	LPMS-RS232AL3	
Interface	RS232	USB
Max. Baud rate	921.6Kbit/s	921.6Kbit/s
Communication protocol	LP-BUS /ASCII	LP-BUS
Orientation range	Roll: $\pm 180^\circ$ ; Pitch: $\pm 90^\circ$ ; Yaw: $\pm 180^\circ$	
Size	50×42×25mm	
Weight	71g	
Resolution	0.01°	
Accelerometer	3-axis, $\pm 2 / \pm 4 / \pm 8 / \pm 16$ g, 16bits	
Gyroscope	3-axis, $\pm 125 / \pm 250 / \pm 500 / \pm 1000 / \pm 2000$ dps / $\pm 4000$ dps, 16bits	
Pressure sensor	300-1100 hPa	
Magnetometer	3-axis, $\pm 2 / \pm 8$ gauss,16bits	
Accuracy	< 0. 5° (static), < 2° RMS (Dynamic)	
Data output format	Raw & Calibrated data, Euler Angle, Quaternion, Linear Acceleration	
Data output Rate	500 Hz	
Current draw	~22mA	
Power supply	5V ~ 18V DC	
connector	M12 8 Pin (SACC-DSI-MS-8CON-PG 9/0,5 SCO equivalent)	
Case material	Aluminum alloy, IP67 Waterproof	
Temperature range*	-40 to +80 °C	
Software information	LpmsControl2 interface software (Windows), Open source sensor driver for Windows and Linux (OpenZen, supports C, C++, Python, C#, Unity, ROS)	

## External dimensions



\*Performance parameters are measured at room temperature +25°C. Reference values will change at other temperatures.

※TTL, RS232 and CAN bus simultaneously cannot be used. Only one communication mode can be selected at a time.

※Please refer to the product manual for more detailed specifications.

## Package

- LPMS-RS232AL3 sensor× 1
- Cable× 1
- Box x 1
- Instruction manual× 1
- Warranty (1Year)



## Interface Software

