

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.

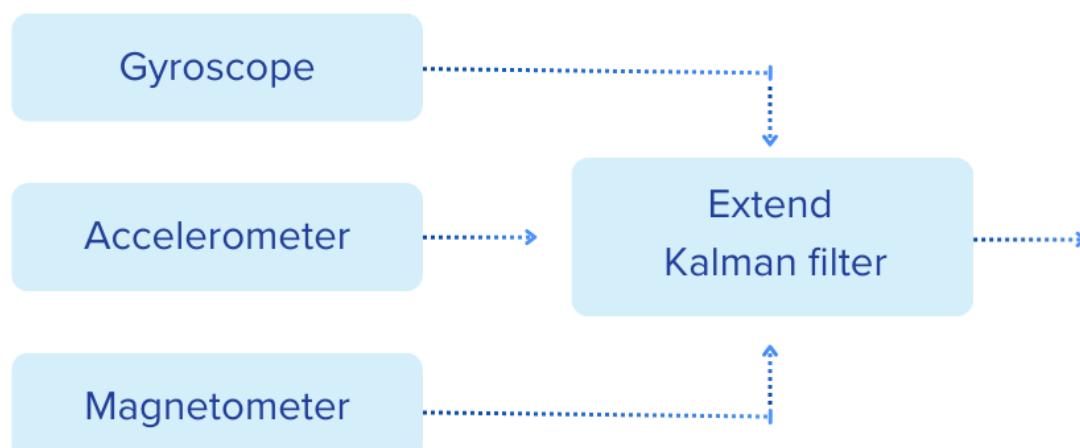


Key Features

- 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

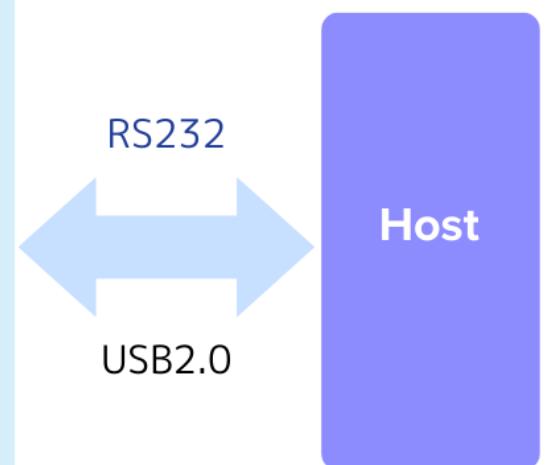
Applications

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



Raw data
Angular rate
Acceleration
Magnetic field strength

Real-time calculation
Orientation
Linear acceleration
Altitude

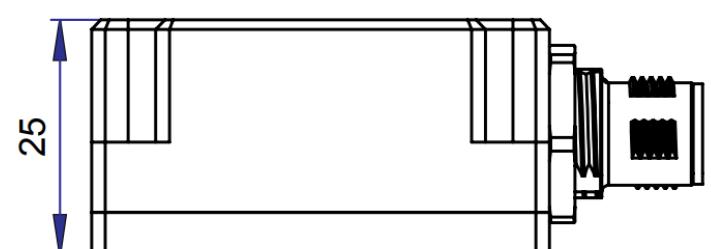
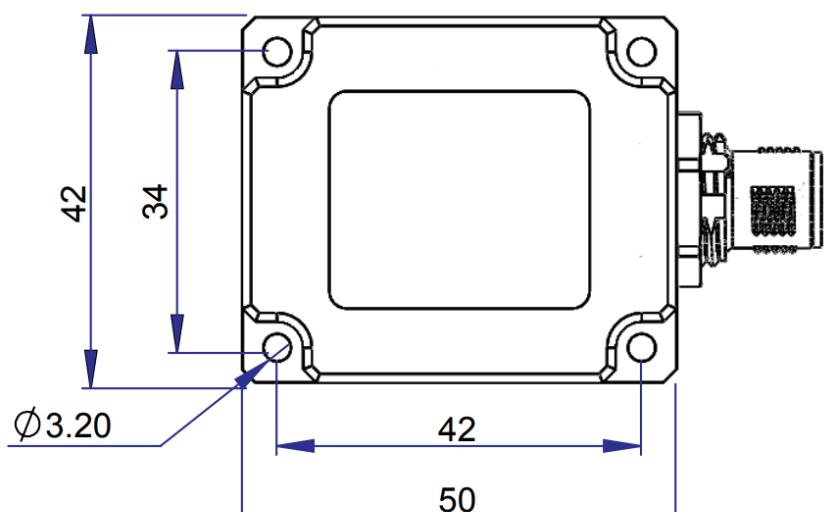


For pricing or any further information, please contact Omni Instruments Ltd.

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	106.8 (± 4) g	
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 / ± 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	<110mW@5V	
Power supply	5V ~ 18V DC	
connector	M12 8 Pin	
Case material	Aluminum alloy, IP67 Waterproof	
Temperature range*	-20 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



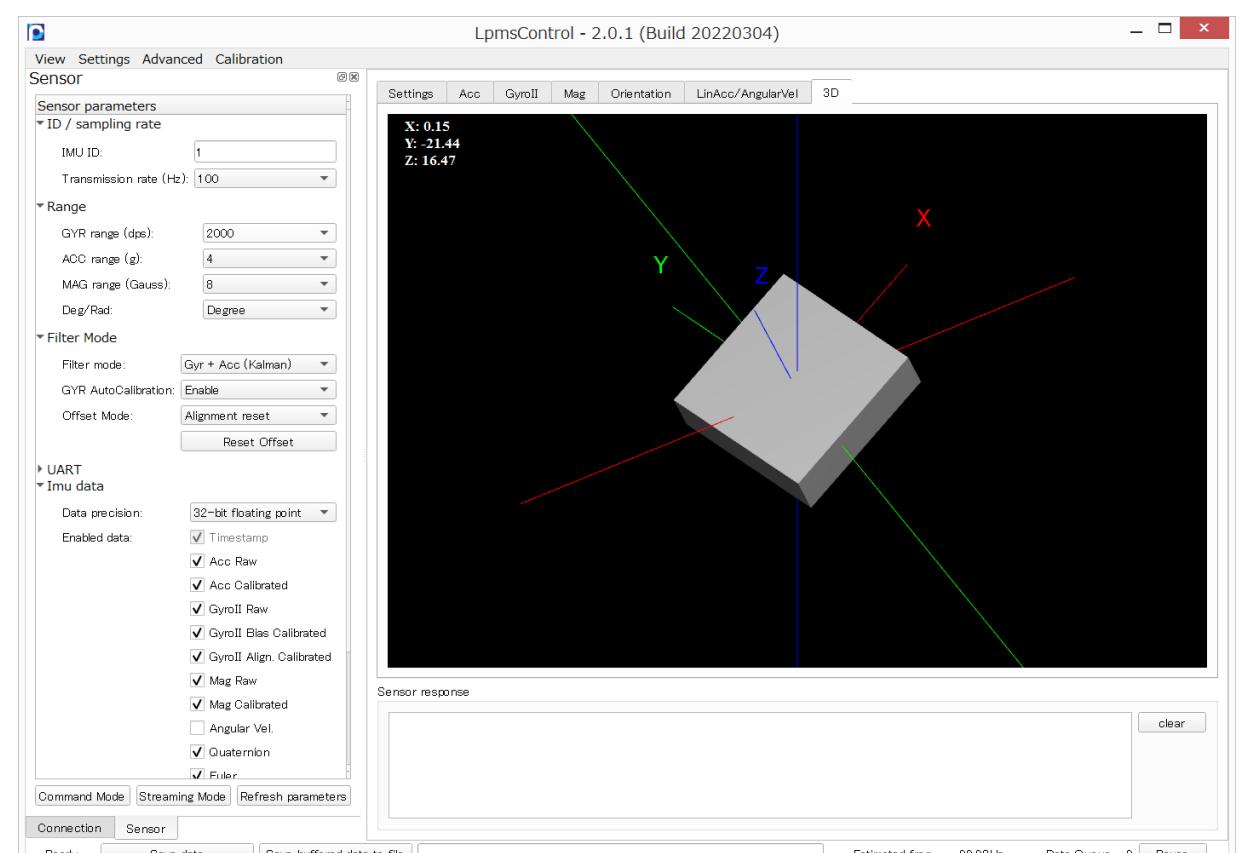
*Performance parameters are measured at room temperature +25°C. Reference values will change at other temperatures.
※TTL, RS232 and CAN bus simultaneously cannot be used. Only one communication mode can be selected at a time.
※Please refer to the product manual for more detailed specifications.

Package

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



Interface Software



Measurement and data acquisition solutions

Contact Details:

Tel: +44 1382 443000
Fax: +44 1382 453197
Email: info@omni.uk.com

Mailing Address: Unit 1, 14 Nobel Road,
Wester Gourdie Industrial Estate,
Dundee, DD2 4UH.

Website: www.omniinstruments.co.uk