

LPMS-TTLAL3

9-Axis Inertial Measurement Unit (IMU) / AHRS with TTL/USB Connectivity and IP67-Rated Enclosure

The LPMS-TTLAL3 is an innovative, high-performance, miniature motion sensor with a waterproof housing. The LPMS-TTLAL3 integrates TTL and USB interfaces into one unit, making it ideal for measuring machine motion measurements and perfect for industrial applications.

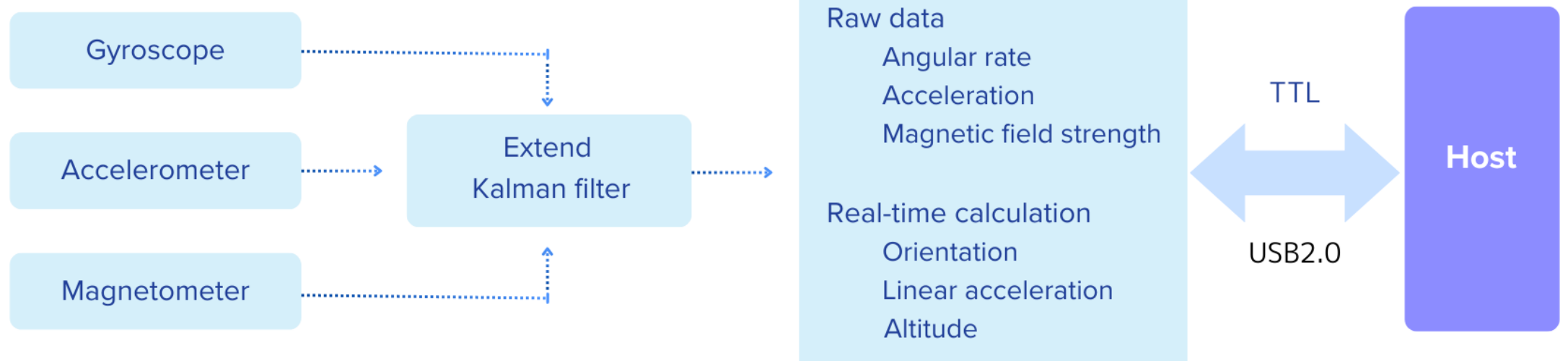


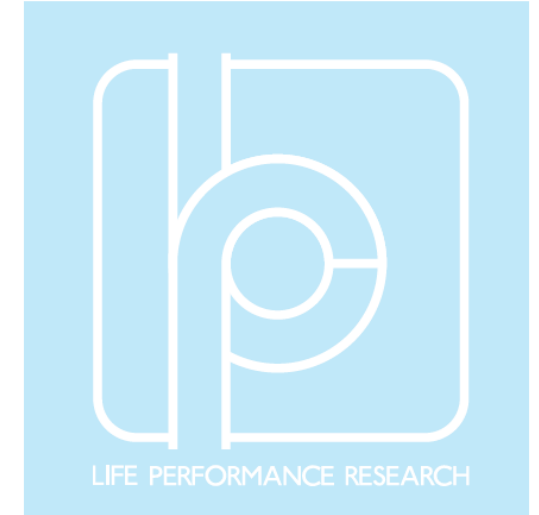
Key features

- 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 500Hz
- Variety of wired interfaces: TTL and USB
- Control applications and SDK for Windows, Linux

Applications

- AGV navigation
- Machine monitoring

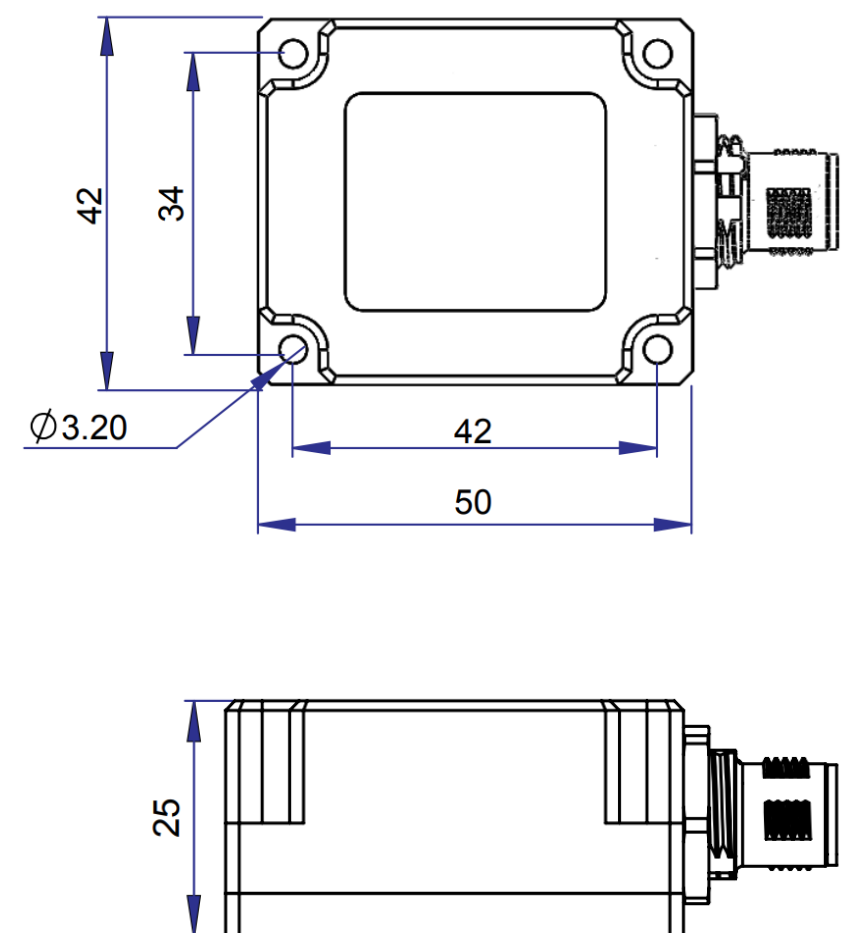




Sensor specification

Part number	LPMS-TTLAL3	
Interface	TTL(UART)	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 / ± 4000 dps, 16bits	
Pressure sensor	300-1100 hPa	
Magnetometer	3-axis, $\pm 2 / \pm 8$ gauss, 16bits	
Accuracy	$< 0.5^\circ$ (static), $< 2^\circ$ RMS (Dynamic)	
Data output format	Raw & Calibrated data, Euler Angle, Quaternion, Linear Acceleration	
Data output Rate	500 Hz	
Current draw	~ 27 mA	
Power supply	5V ~ 18V DC	
connector	SACC-DSI-MS-5CON-PG 9/0, 5 SCO, M12	
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-TTLAL3 sensor× 1
- Cable× 1
- Box x 1
- Instruction manual×1
- Warranty (1Year)



Interface Software

