LPMS-TTLAL3

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

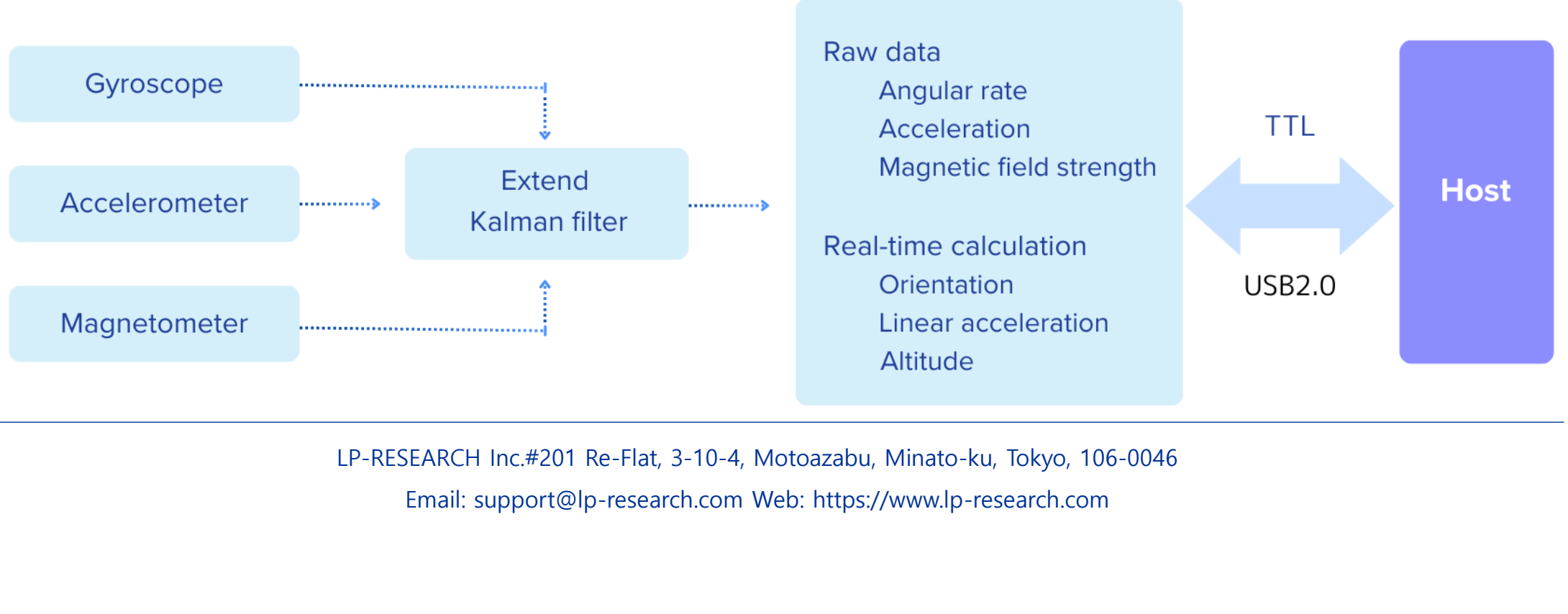
The LPMS-TTLAL3 is an innovative, high-performance, miniature motion sensor with a waterproof housing. The LPMS-TTLAL3 integrates TTL and USB interfaces into one unit, making it ideal for measuring machine motion measurements and perfect for industrial applications.

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



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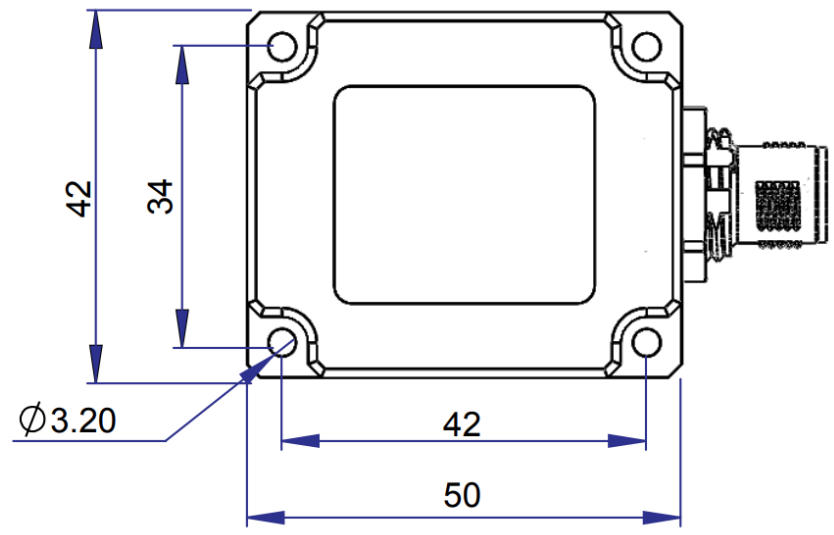
Sensor Specification

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: ±180°; Pitch: ±90°; Yaw: ±180°	
Size	50×42×25mm	
Weight	71g	
Resolution	0.01°	
Accelerometer	3-axis, ±2 / ± 4 / ± 8 / ± 16 g, 16bits	
Gyroscope	3-axis, ± 125 / ± 250 / ± 500 / ± 1000 / ± 2000dps / ± 4000dps, 16bits	
Pressure sensor	300-1100 hPa	
Magnetometer	3-axis, ± 2 / ± 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	~27mA	
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*	-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)	

*Performance parameters are measured at room temperature +25℃. 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.

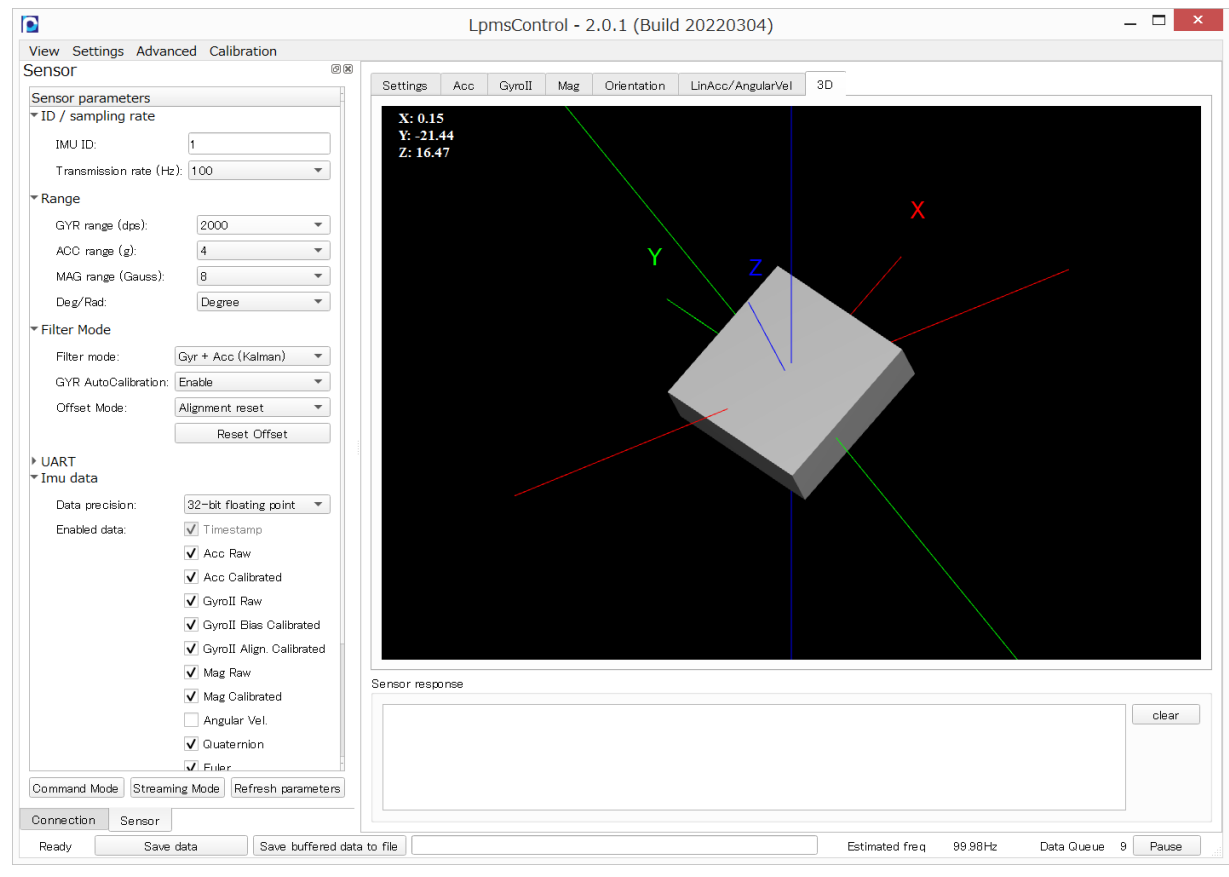
External Dimensions



Package

- LPMS-TTLAL3 sensor× 1
- Cable× 1
- Box x 1
- Instruction manual× 1
- Warranty (1Year)

LpmsControl (Interface Software)



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