

LPMS-NAV3



LPMS-NAV3 LPMS Waterproof 6-axis Motion Sensor / IMU with high-precision heading measurement

LPMS-NAV3 is a high-performance miniature inertial measurement unit (IMU) with multiple communication interfaces. The sensor uses a combination of 3-axis accelerometer/ gyroscope and a high-accuracy single axis gyroscope to calculate accurate relative heading information. Also, LPMS-NAV3 sensor is contained in a rugged, IP67-rated aluminum enclosure. We created this unit especially with automotive, mobile robotics and automatic guided vehicle (AGV) application cases in mind.

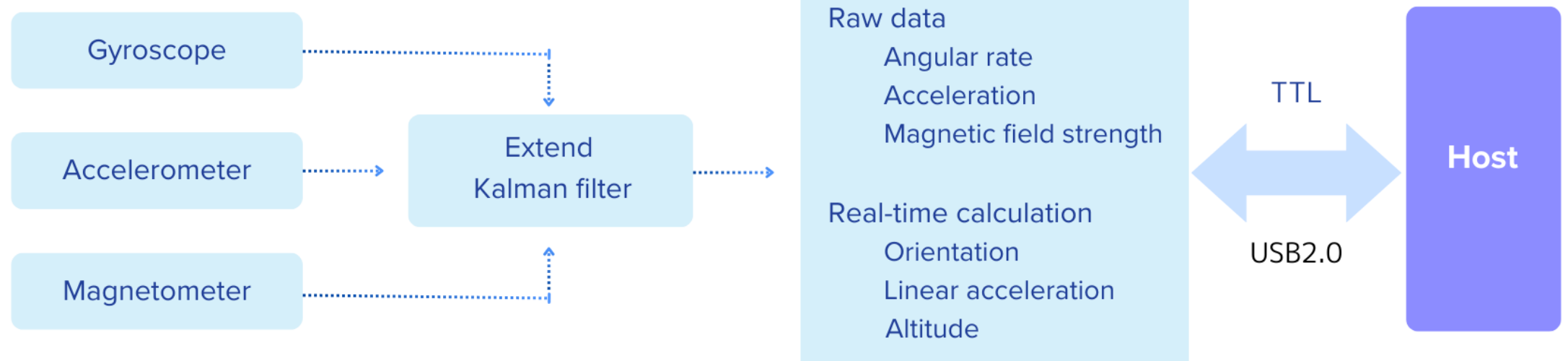


Key features

- MEMS miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer and an additional single axis ultra-low-noise gyroscope for yaw angle calculation
- Precise heading data output
- Data output rates of up to 500Hz
- IP67-rated waterproof enclosure
- Available interface: TTL, RS232, RS422, RS485
- Ideal for autonomous navigation applications

Applications

- AGV/AMR navigation
- Automatic dead reckoning
- SLAM applications

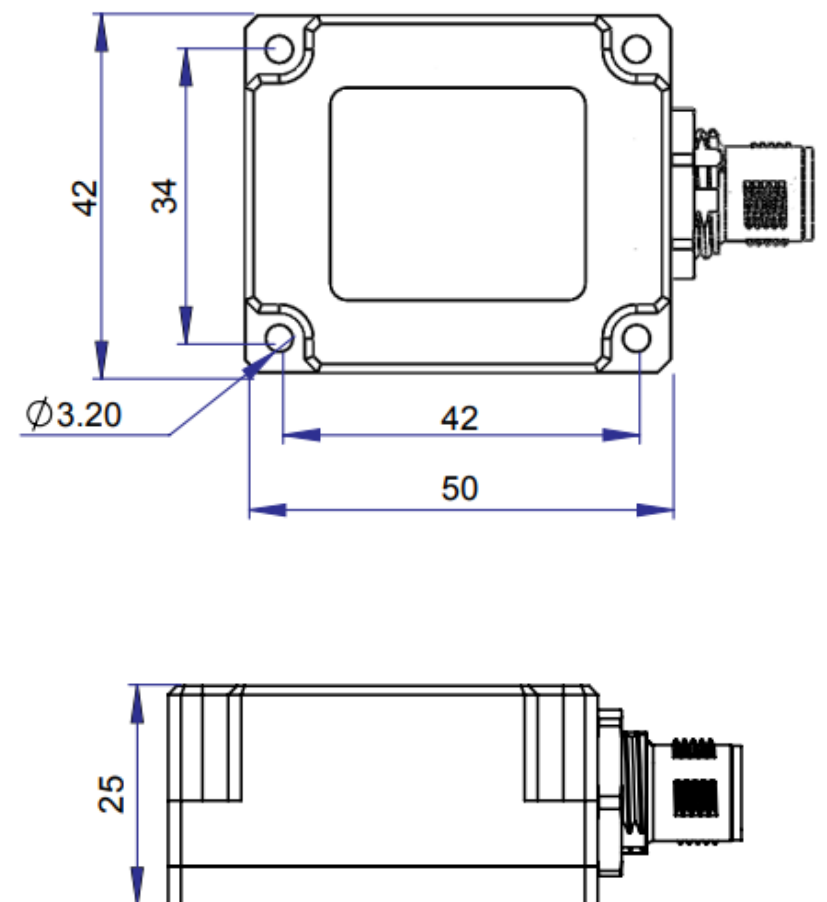


Sensor specification



Part number	LPMS-NAV3-TTL / RS232 / RS422 / RS485
Size	50 × 42 × 25 mm
Weight	74 g
Communication protocol	LP-BUS
Interface	TTL / RS232 / RS422 / RS485
Max. Baudrate	TTL/ R232/ RS422: 921.6 Kbps, RS485: 256 Kbps
Orientation range	Roll: ±180°; Pitch: ±90°; Yaw: ±180°
Resolution	0.01°
Accuracy	< 0. 5° (static), < 2° RMS (Dynamic)
Gyroscope	XY-axis, ± 125 / ± 250 / ± 500 / ± 1000 / ± 2000 dps / ± 4000 dps, 16 bits Z-axis, ±400 dps, 24 bits
Accelerometer	3-axis, ±2 / ±4 / ±8 / ±16 g, 16 bits
Data output format	Raw & Calibrated data, Euler Angle, Quaternion, Linear Acceleration
Data output rate	500 Hz
Current draw	~ 7 mA @ 12V
Power supply	5V ~ 36V DC
connector	SACC-DSI-MS-5CON-PG 9/0, 5 SCO, M12
Case material	IP67 rated aluminum alloy
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.

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

Package

- LPMS-NAV3 sensor× 1
- Cable× 1
- Box x 1
- Instruction manual× 1
- Warranty (1Year)



Interface Software

