LPMS-UARTAL

LPMS-UARTAL Waterproof Wired Motion Sensor / IMU / AHRS with UART TTL/ RS232 Connectivity

The LPMS-UARTAL is an innovative and high performance motion sensor with waterproof connector design. Using CAN Bus as the communication interface, UART TTL/RS232 signals as the communication interface, the LPMS-UARTAL perfectly fits machine motion measurements for industrial applications.
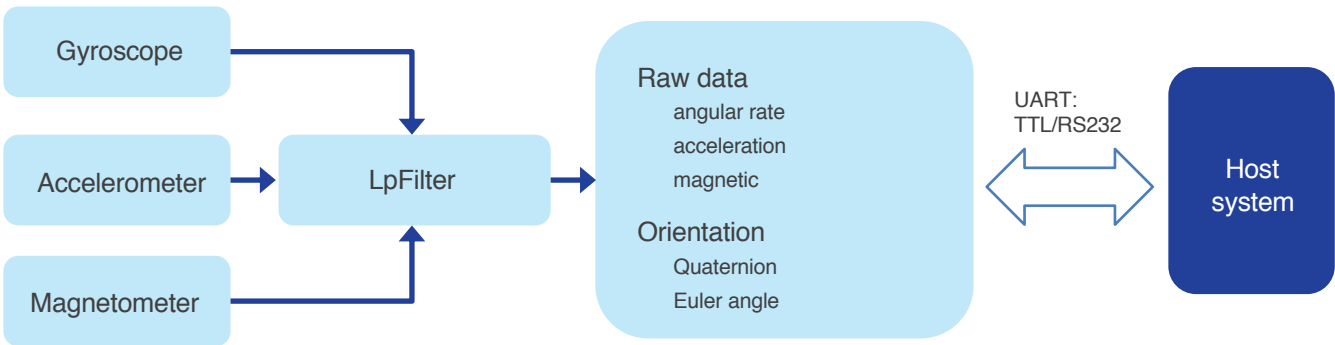

Key Features

- MEMS miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer and magnetometer
- Accurate on-device orientation calculation using the LpFilter (based on an extended Kalman filter).
- High sampling rates of up to 300 Hz.
- Industrial standard interfaces: UART TTL/RS232
- SDK and programming libraries for Windows, Linux, Android, etc.
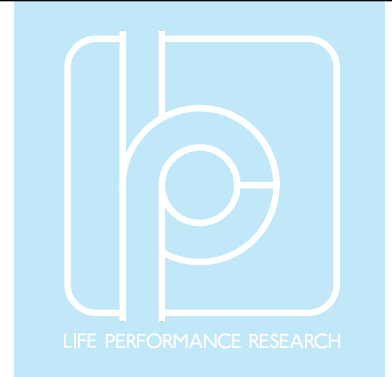- Affordable price

Applications

- Human motion capture
- Health care: health monitoring equipment, fitness devices, etc.
- Medical and sport skill training
- Vehicle monitoring
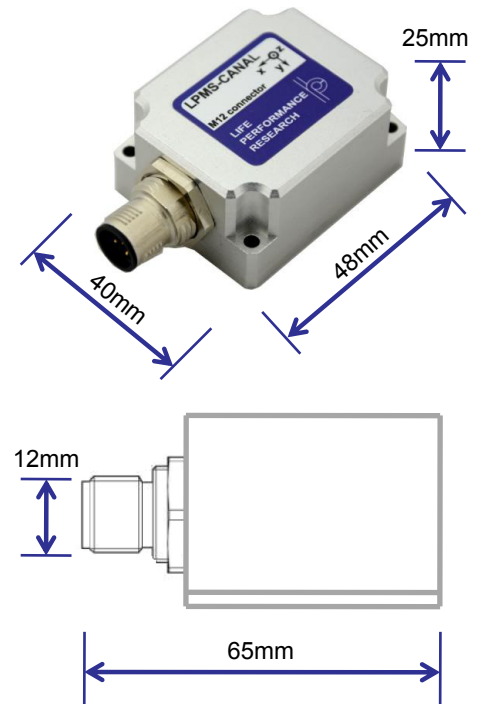- Aerospace navigation
- Virtual reality

Sensor Specifications

Wired interface	UART:TTL/RS232
Max. baudrate	921.6kbit/s
Communication protocol	LpBus
Size	48 x 40 x 25 mm
Weight	67.5g
Orientation range	360° about all axes
Resolution	< 0.05°
Accuracy	< 0. 5°(static), < 2°RMS (dynamic)
Accelerometer	3-axis,± 20 / ± 40 / ± 80 / ± 160 m/s², 16 bits
Gyroscope	3-axis,± 250 / ± 500 / ± 2000°/s, 16 bits
Magnetometer	3-axis,± 130〜± 810uT, 16 bits
Pressure sensor	300〜1100hPa*
Data output format	Raw data / Euler angle / Quaternion
Sampling rate	0〜300 Hz
Power consumption	165 mW @ 5 V
Power supply	4〜18 V DC
Connector	SACC-DSI-MS-5CON-PG 9/0,5 SCO, M12
Case material	Aluminum
Temperature range	- 40〜+80°C
Software	C++ library for Windows, Java library for Android, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.

＊An optional pressure sensor is available for altitude measurement.

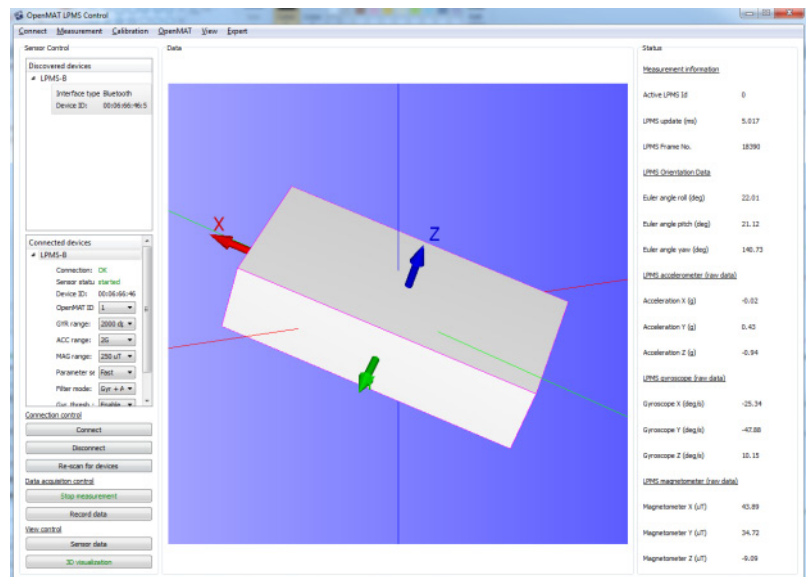## Mechanical drawing

25mm

40mm

48mm

12mm

65mm

Package

- LPS-UARTAL sensor x 1

- Cable x 1

- User guide card

- Warranty (1 year)

Multiple LPMS-CUs can be connected together while using CAN Bus interface.

LpmsControl Utility Software