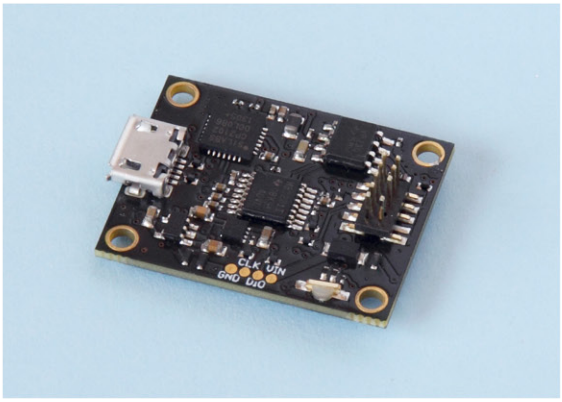
LPMS-CURS2

LIFE PERFORMANCE RESEARCH

LPMS Wired Miniature Motion Sensor / IMU / AHRS with CAN Bus, USB and UART Connectivity

LPMS-CURS2 is a high performance miniature inertial measurement unit (IMU) with multiple communication interfaces. Integrating CAN Bus, USB and UART, the LPMS-CURS2 perfectly fits both machine and human motion measurements for size and cost sensitive applications. LPMS-CURS2 is shipped without housing and is ideal for integration with your own device.

Please note that while all versions of LPMS-CURS2 support USB communication, additionally only one (either RS232, TTL serial or CAN bus) interface is supported by the firmware. When ordering please let us know which communication mode you would like to use.

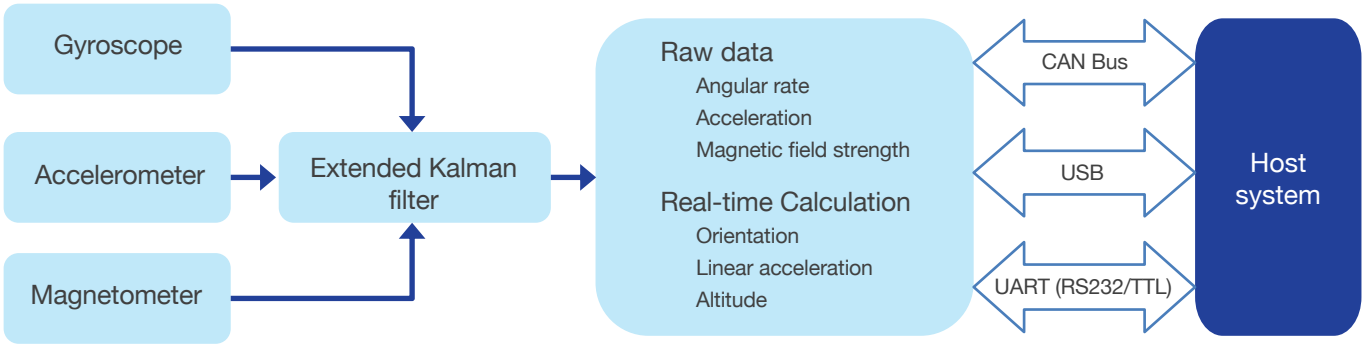


Key Features

- MEMS-based miniature inertial measurement unit (IMU)
- Integration of 3-axis gyroscope, accelerometer, magnetometer, temperature and barometric pressure sensor in one unit
- Maker edition PCB version without enclosure
- Real-time, on-device calculation of sensor orientation, linear acceleration and altitude
- Data output rates of up to 400Hz
- USB interface + CAN bus or serial interface (RS232, TTL) options
- Selectable binary and plain ASCII format output
- CANopen protocol support (subset)
- Control application and SDK for Windows, Linux

Applications

- Robotic manipulator forward kinematics control
- Automotive dead reckoning
- Object orientation tracking for VR/AR
- Automatic guided vehicle (AGV) navigation



NOTE: Diagram is simplified. Please ask us, if you need more detailed information.

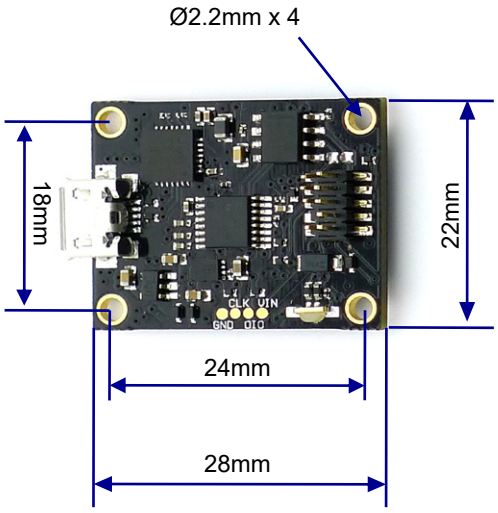
LP-RESEARCH Inc.
#303 Y-Flat, 1-11-15, Nishiazabu, Minato-ku, Tokyo, 106-0031 Japan
Tel: +81-3-6804-1610
Email: info@lp-research.com
Web: http://www.lp-research.com

Sensor Specifications

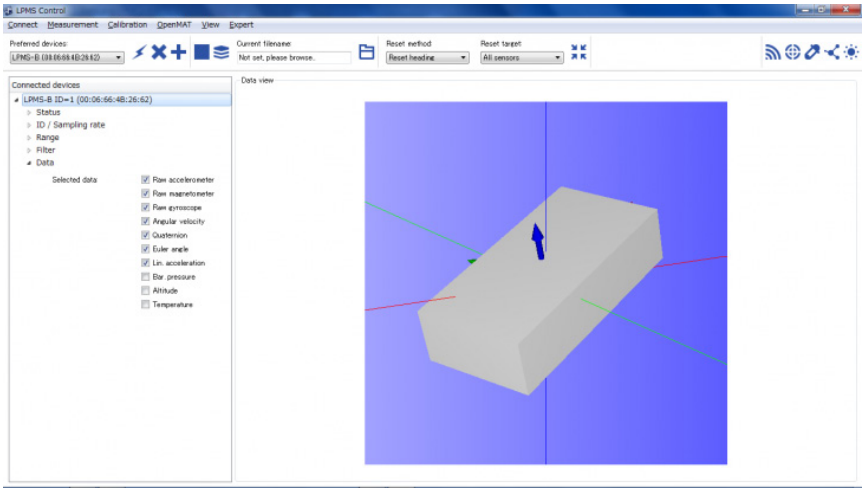
Wired interface	CAN Bus	UART: RS232/TTL	USB
Max. baudrate	1Mbit/s	921.6Kbit/s	921.6Kbit/s
Communication protocol	LP-CAN/ CANopen	LP-BUS	LP-BUS
Size	22 x 28 x 7.9 mm		
Weight	3.1g		
Orientation range	Roll: ±180°; Pitch: ±90°; Yaw: ±180°		
Resolution	<0.01°		
Accuracy	< 0. 5° (static), < 2° RMS (dynamic)		
Accelerometer	3-axis, ±2 / ± 4 / ± 8 / ± 16 g, 16 bits		
Gyroscope	3-axis, ± 125 / ± 245 / ± 500 / ± 1000 / ± 2000 dps, 16 bits		
Static orientation stability	9 °/hour		
Gyroscope noise density	0.007 dps/√Hz		
Magnetometer	3-axis, ± 4 / ± 8 / ± 12 / ± 16 gauss, 16 bits		
Pressure sensor	300-1100 hPa		
Data output format	Raw data / Euler angle / Quaternion		
Data output rate	up to 400Hz		
Power consumption	< 182 mW @ 3.3V		
Power supply	5 V ~15 V DC*		5 V DC
Connector	Header pitch 1.27 mm		Micro USB-B
Temperature range	- 40 ~ +80°C		
Software	C++ library for Windows, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.		

*3.3V power supply is optional. Please contact us for more

Mechanical drawing



LpmsControl Utility Software



Package

- LPMS-CURS2 sensor x 1
- User guide card x 1
- Cable (1.27mm pitch connector) x 1
- Box x 1
- Warranty (1 year)

LP-RESEARCH Inc.
#303 Y-Flat, 1-11-15, Nishiazabu, Minato-ku, Tokyo, 106-0031 Japan
Tel: +81-3-6804-1610
Email: info@lp-research.com
Web: http://www.lp-research.com