LPMS-CURS2

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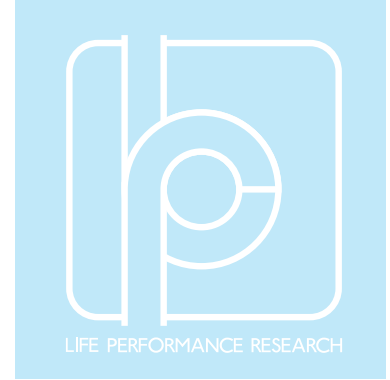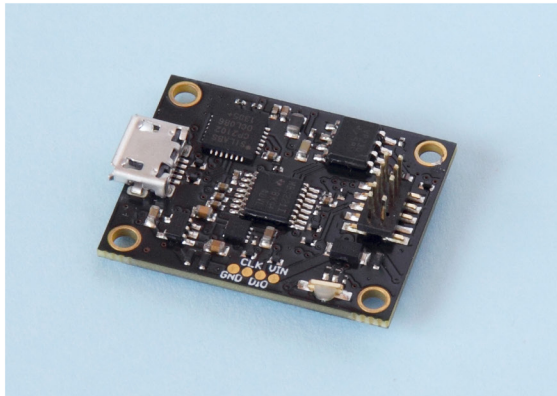
LPMS Wired Miniature Motion Sensor / IMU / AHRS with CAN Bus, USB and UART Connectivity

The LPMS-CURS2 is an innovative and high performance miniature motion sensor 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.
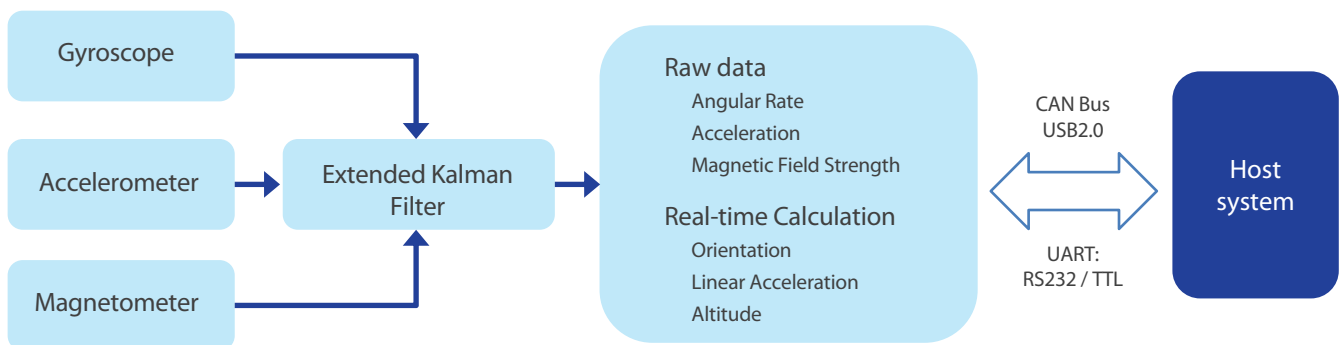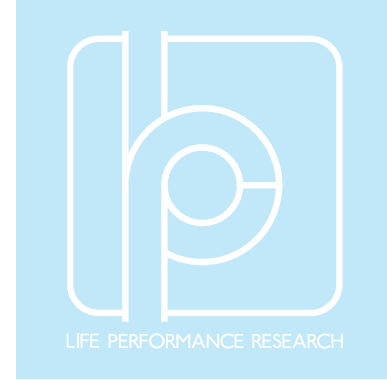
Key Features

- 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 400Hz

- Variety of wired interfaces: CAN Bus, USB, UART: RS232 or TTL

- Control application and SDK for Windows, Linux

Applications

- Human motion capture

- Internet of Things (IoT) devices

- Sports performance evaluation

- Drone flight control

Gyroscope → Extended Kalman Filter
Accelerometer → Extended Kalman Filter
Magnetometer → Extended Kalman Filter

Raw data
Angular Rate
Acceleration
Magnetic Field Strength

Real-time Calculation
Orientation
Linear Acceleration
Altitude

CAN Bus
USB2.0

UART:
RS232 / TTL

Host system

Sensor Specifications

	CAN Bus	UART: RS232/TTL	USB
Wired interface	CAN Bus	UART: RS232/TTL	USB
Max. baudrate	1Mbit/s	921.6Kbit/s	921.6Kbit/s
Communication protocol	LpCAN/ CANOpen	LpBus	LpBus
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		
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℃		
Software	C++ library for Windows, LpmsControl software and Open Motion Analysis Toolkit (OpenMAT) for Windows.		
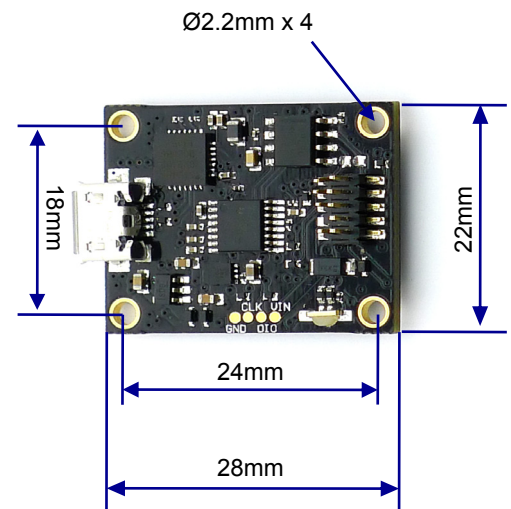
*3.3V power supply is optional. Please contact us for more detials.

Mechanical drawing

Ø2.2mm x 4

18mm

22mm

24mm

28mm

Package

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

LpmsControl Utility Software