

# LPMS-URS3

## LPMS Wired Miniature Motion Sensor / IMU / AHRS with RS232 and USB Connectivity

The LPMS-URS3 is an innovative and high-performance miniature motion sensor.

Integrating RS232 and USB interfaces into one unit, the LPMS-URS3 perfectly fits to both machine and human motion measurements for size and cost sensitive applications.

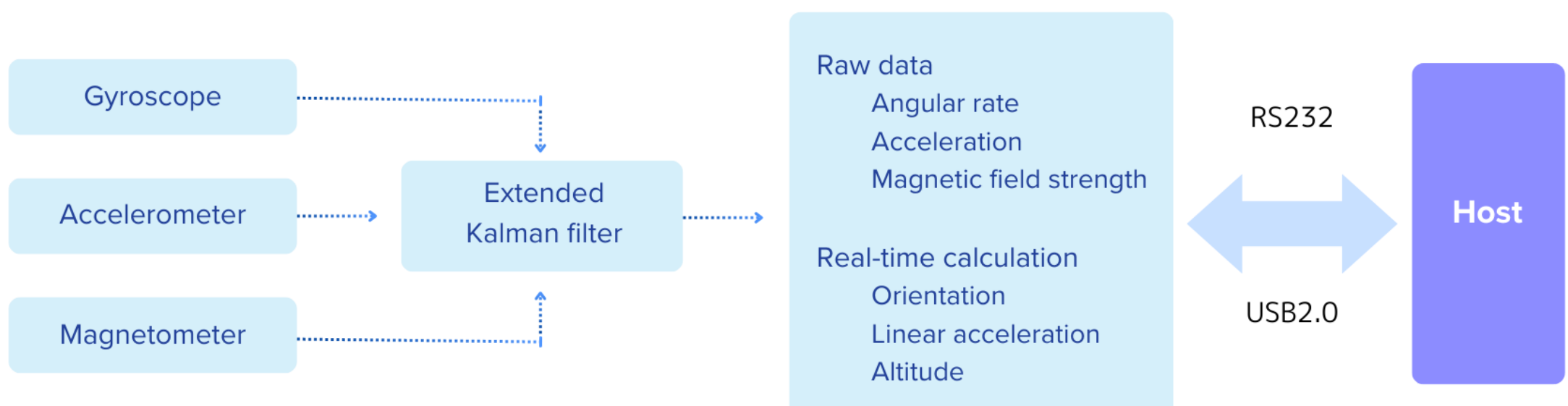


### Key Feature

- 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: RS232 and USB
- Control applications and SDK for Windows, Linux

### Application

- Manipulator balance control
- Internet of Things (IoT) devices
- Autonomous mobile robot navigation
- Robot arm control

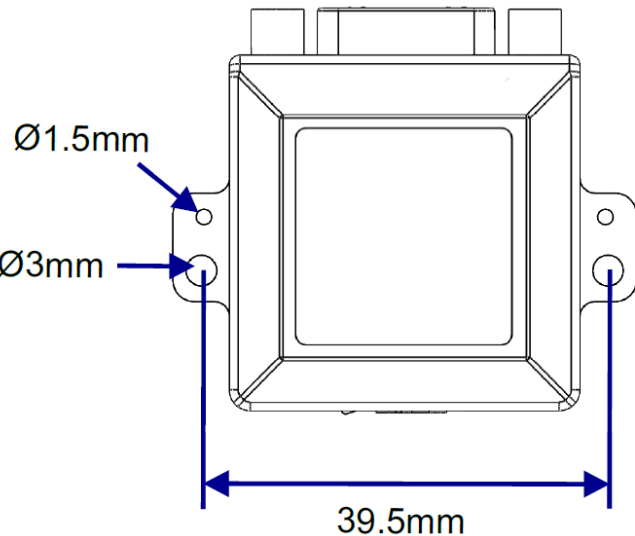
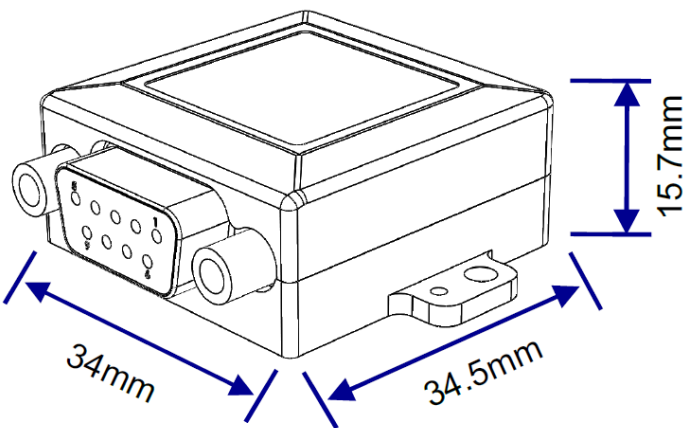


For pricing or any further information, please contact Omni Instruments Ltd.

Specification

|                         |                                                                                                                                               |               |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Part Number             | LPMS-URS3                                                                                                                                     |               |
| Communication Interface | RS232                                                                                                                                         | USB           |
| Max. Baudrate           | 921.6 Kbit/s                                                                                                                                  | 921.6 Kbit/s  |
| Communication Protocol  | LP-BUS/ ASCII                                                                                                                                 | LP-BUS/ ASCII |
| Orientation Range       | Roll: ±180°; Pitch: ±90°; Yaw: ±180°                                                                                                          |               |
| Size                    | 34×34.5×15.7mm                                                                                                                                |               |
| Weight                  | 17.6g                                                                                                                                         |               |
| 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                                                                                                                                        |               |
| Power Consumption       | 0.021A@12V                                                                                                                                    |               |
| Power Supply            | 5V ~18V DC                                                                                                                                    | 5V DC         |
| Connector               | Micro USB-B                                                                                                                                   | DB9 female    |
| Case Material           | ABS                                                                                                                                           |               |
| Operation Temperature   | -20 to +80 °C (upon request -40 to +80 °C)                                                                                                    |               |
| Software & Driver       | LpmsControl2 interface software (Windows), Open source sensor driver for Windows and Linux (OpenZen, supports C, C++, Python, C#, Unity, ROS) |               |

Dimensions



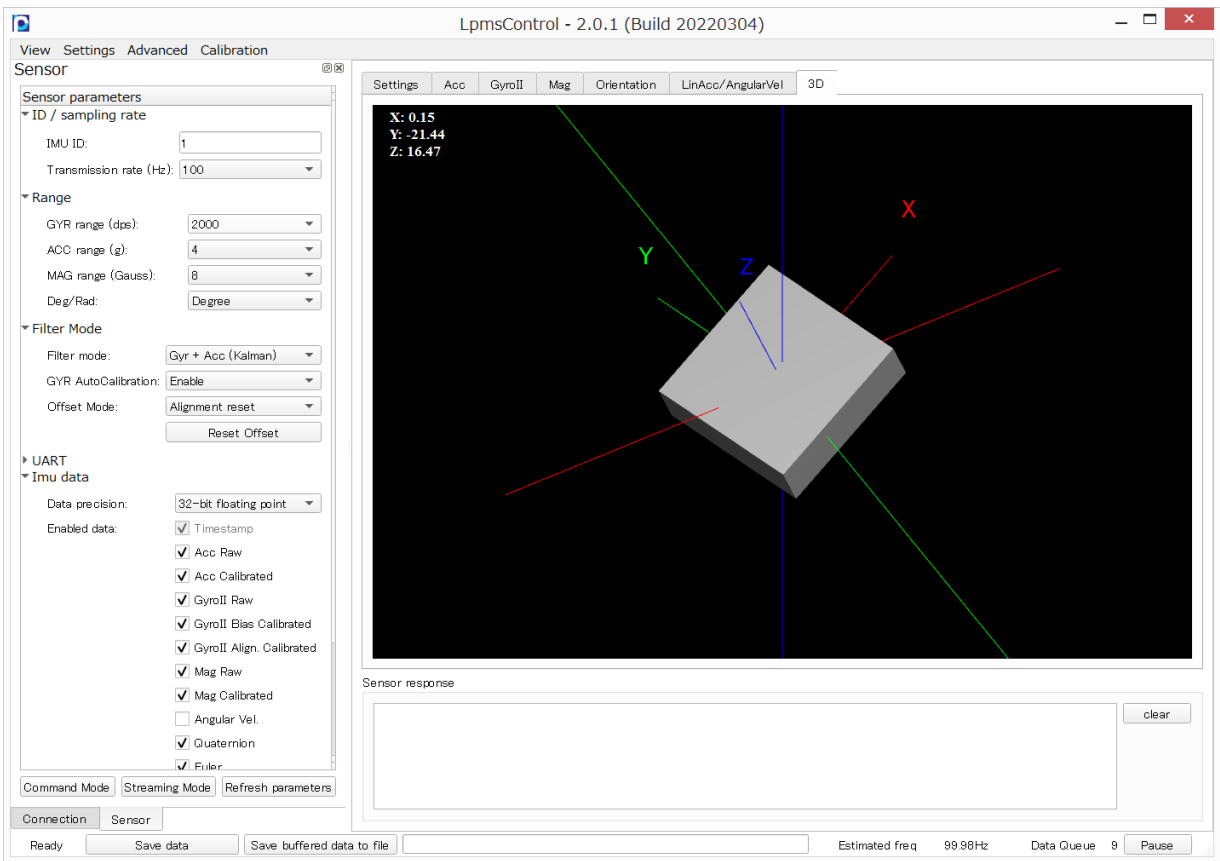
※ Performance parameters are measured at +25°C. Other temperatures may result in varying reference values.  
※ Please refer to the product manual for more detailed specifications.

Package

- LPMS-URS3 Sensor× 1
- Cable × 1
- User Guide Card × 1
- Warranty (1 Year)



LpmsControl(Interface Software)



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