



Industrial Remote Monitoring System

High-frequency analysis
for precision and large machinery.

**LP
PIOT
SOLUTION**

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LPIoT: Smart, Secure, and Efficient Industrial IoT Monitoring



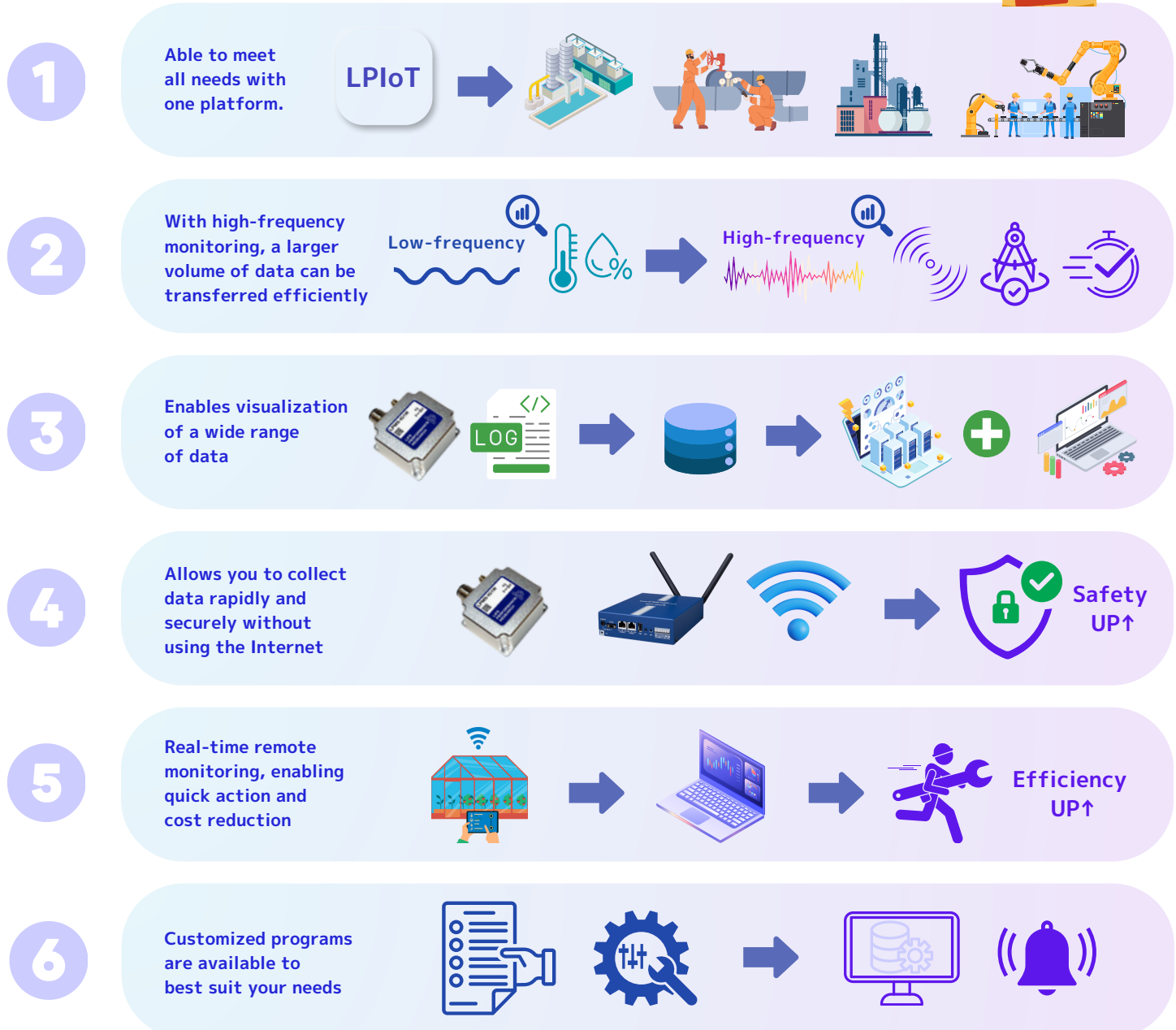
LPIoT is an advanced industrial IoT solution that monitors the rotation and vibration of factory machinery with high-frequency precision. It instantly detects abnormalities and sends real-time alerts—even remotely—ensuring seamless, proactive maintenance.

- **Optimize Workforce Efficiency** – Address the shortage of skilled workers by automating monitoring for precision and large-scale industrial machinery.
- **Reduce Maintenance Costs** – Detect issues early, minimize downtime, and extend equipment lifespan.
- **Remote Monitoring, Anytime & Anywhere** – Gain real-time insights into machinery performance without being on-site.
- **High-Precision, High-Frequency Analysis** – Capture even the subtlest vibrations that human detection cannot, ensuring predictive maintenance at its best.

LPIoT streamlines industrial operations enhances reliability, and provides quick, secure, and real-time notifications of any irregularities. Take control of your factory's performance with smarter, data-driven maintenance!



6 key points of LPIoT systems



Before the introduction of LPIoT



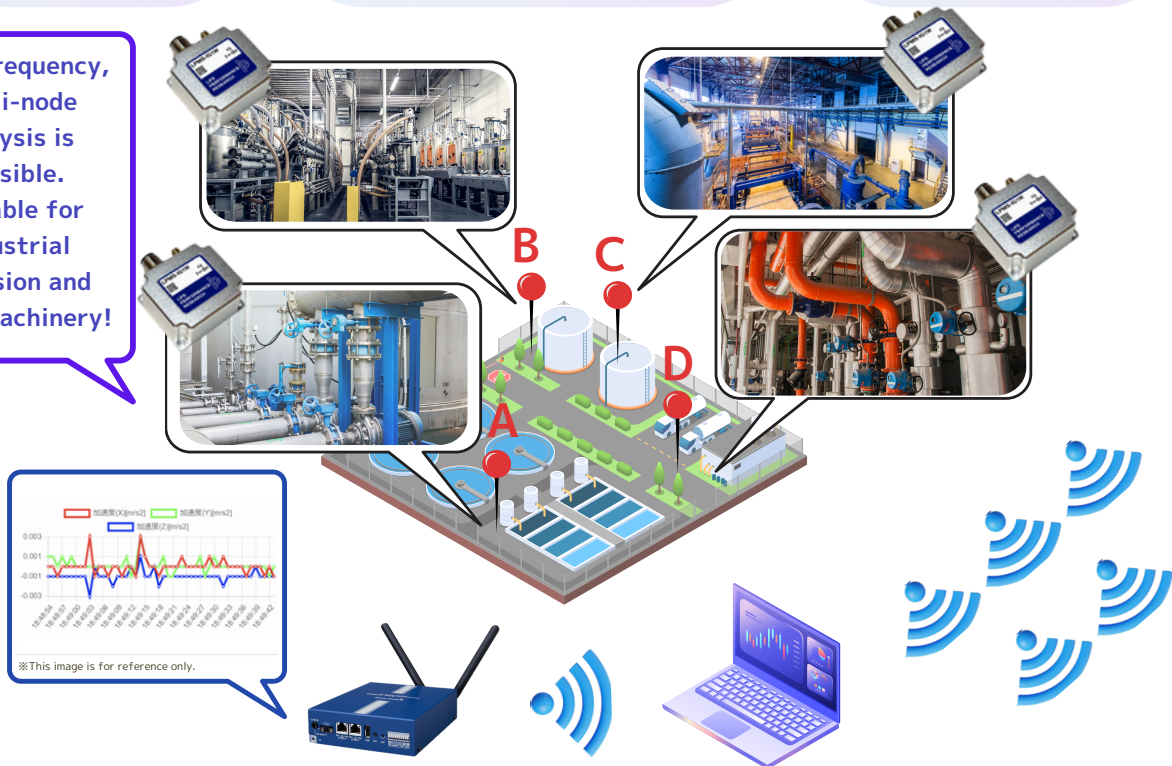
After the introduction of LPIoT

Real-time remote monitoring every day

Even large volumes of data can be measured without omissions at high frequencies, and quick response → Cost reduction

Precise prediction of replacement timing
Reduces loss from replacing parts

High-frequency, multi-node analysis is possible. Suitable for industrial precision and large machinery!



High-frequency analysis

Precise Analysis

Remote monitoring

Local data storage

Safety
Timeliness
accuracy

Predictive maintenance inspections
anywhere, anytime!
Rapid response results in significant cost reductions!

LPIoT Use Case - Example of remote abnormality detection monitoring for waste water pump machinery



Multiple IMU sensors enable simultaneous remote monitoring. Customizable monitoring system to suit your needs.

Improve security with Wi-Fi transfer! Control center allows easy checking without actually touching the machine. Replacement and troubleshooting only when necessary

※The above image is for reference only and may differ from the actual facilities.

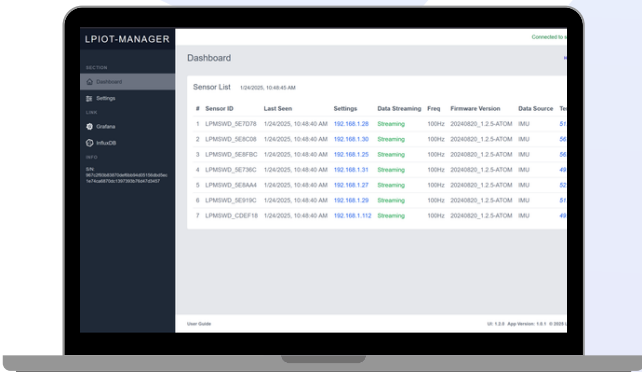
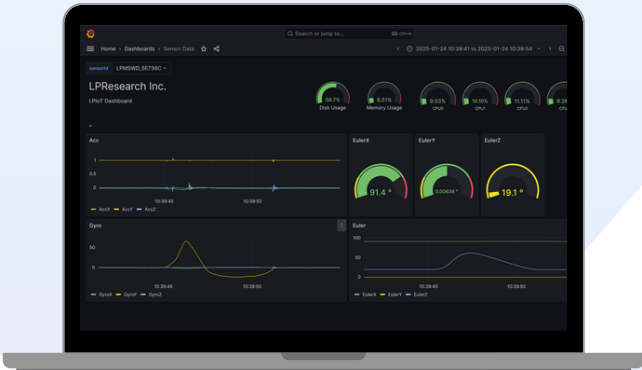
LPIoT Use Case - Example of Remote Monitoring of Tobacco Manufacturing Machinery



LPMS-IG1W-Image of sensor installed- It is possible to detect machine abnormalities and perform predictive maintenance by sensing vibrations at high frequencies. *Two LPMS-IG1W sensors are attached to the main body and lid of a cigarette manufacturing machine, and the correct posture · angle · closing status is being measured in real-time.

※This is an actual image of the LPIoT system in a cigarette manufacturing machine.

About LP IoT software's GUI



※LP IoT software's GUI

Data Logging

- InfluxDB Time Series Database
- High concurrency, high throughput data writing
- Manipulate and manage data along time series
- Approximate data capacity
- 100Hz (acceleration, gyro, Euler angle) ~700MB/day
- 10 sensors: 7GB/day
- 128GB model: 10 sensors, 14 days storage period
- 256GB model: 10 sensors, 33 days storage period
- Data storage period can be specified

Data Visualization

- Grafana Data Visualizer
- Chart and graph display in a web browser
- Customizable dashboards

Remote Control

- Linux OS
- SSH Remote System Administration
- Perform periodic tasks, scripts or cronjob, etc., can be executed by the main unit

Customized Programs

- Node-RED visual programming tool for easy program development
- InfluxDB can develop analytical programs using client libraries such as Python, C++, GO, Java, Javascript, Ruby, etc.

Implement of the LP IoT system and the components required

>>2 types of connection methods

Easy-to-implement of LP IoT system!





LPMS-IG1W

9-AxisIMU(Inertial Measurement Unit)/AHRS(Pose Measurement)、Wi-Fi communication support

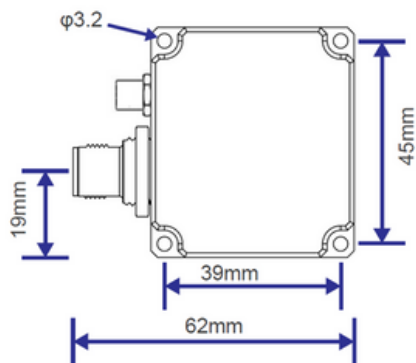
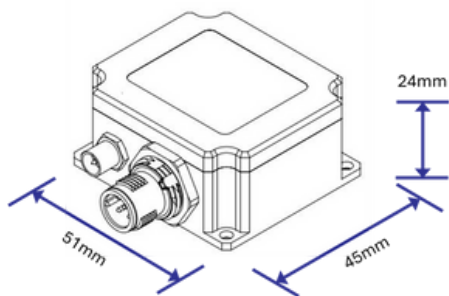
Sensor Specifications

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

Part number	LPMS-IG1W
Interface	Wi-Fi + USB
Weight	115g
Size	51x45x24mm
Static orientation stability	#1: 4 °/hour, #2: 6 °/hour
Orientation range	360° about all axes
Resolution	< 0.01°
Accuracy	< 0.3° (static), < 1° RMS (dynamic)
Accelerometer	3-axis, ±20 / ±40 / ±80 / ±160 m/s ² , 16 bits
Gyroscope (2 types installed)	Gyro #1: 3-axis, ± 400 dps, 24 bit; Gyro #2: 3-axis, ± 1000 / ± 2000 dps, 16 bit
Magnetometer	3-axis, ± 4 / ± 8 / ± 12 / ± 16 gauss, 16 bits
Gyro-noise density	#1: 0.002 dps/√Hz, #2: 0.004 dps/√Hz
Data output format	Raw data/ Euler angle/ Quaternion
Data output rate	5 ~ 500 Hz
*Power consumption	0.85W (0.07A@12V)
Power supply	5 V ~ 36 V DC
Temperature range	-20 ~ +80°C
Connector	M12 connector
Housing	Aluminum, waterproof (IP67)
Wi-Fi information	Maximum transmission: 10~30m (※1), Wi-Fi frequency band: 2.4GHz, Communication protocol: TCP/IP or MQTT, Wi-Fi output frequency: MQTT 5~200Hz, Socket 5~500Hz
Software	Windows C++ library, Java library for Android, LPMS Control (Data analysis software), Open Motion Analysis Toolkit (OpenMAT) for Windows

※1 : The communication range may change depending on the usage environment.

External dimensions



LPMS-IG1W High-precision gyroscope (#1) Allan variance graph

Package

- LPMS-IG1W sensor× 1
- Antenna × 1
- Instruction Manual × 1
- Cable (USB connector) × 1
- Warranty (1 year)

