# LPMS-INC1

**Dual-Axis High-Precision Inclinometer Sensor** 

LPMS-INC1 is a high-precision, high-stability dual-axis inclinometer sensor based on MEMS technology.

This product processes the built-in accelerometer sensor data through an integrated processing algorithm, combining filtering and calibration algorithms for correction and calculation. Ultimately, it outputs real-time digital data, including uncalibrated raw acceleration data, calibrated acceleration data, inclination data, and temperature data.

In terms of communication, the LPMS-INC1 offers multiple interface options for different applications, including RS232, CAN, RS485, or TTL. (Currently only RS232 communication model is available for sale)





## Key features

- High-precision, high-stability dual-axis inclinometer sensor based on MEMS technology
- Measurement range: ±90° •
- Resolution: <0.001° (IEEE 32-bit single-• precision floating-point format)
- Accuracy: 0.011° •
- Operating temperature range: -20 to 85°C
- Power supply voltage: 5-36V •
- Real-time output: Raw acceleration data, calibrated acceleration data, inclination data, temperature data, etc.
- Multiple communication interfaces •

\*\*For the latest USB communication options, please contact us.

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## Sensor specifications

Product name	LPMS-INC1 RS232	LPMS-INC1 CAN			
Size	74 x 40 x 28.5 mm				
Weight	Abou	t 184 g			
Cimmunication protocol	LPBUS CANOpen				
Interface*	Currently only RS232 is available				
Baudrate	921600 bps	1M bps			
Dip measuring range	X: ±90°、Y: ±90				
Resolution	<0.001° (Flot 32 output)				
Accuracy	0.011°(RMS)				
Zero bias error of accelerometer	X, Z: ±20 mg Y: -20 ~ +20 mg				
Zero bias temperature dependence of accelerometer**	X、Y: ±10 mg Z: ±15 mg				
Accelerometer noise density	X, Z : ±20 µg/√Hz Y : 15 µg/√Hz				
Data output format	Raw data / Dip angle / Temperature				
Data output rate	5 ~ 500 Hz				
Power consumption	240 mW (0.02A @12V)	300 mW (0.025A @12V)			
Power supply (RS232)***	5-36 V DC				
Connector	M12				
Housing	Aluminum, IP67 rated				
Temperature range	-20 ~	+80℃d			



## **External dimensions**





\*Please contact us if you need USB communication.

\*\* Difference from zero bias value at room temperature.

\*\*\* Performance parameters at room temperature+25 C, and reference values will change at other temperatures.

## Package

GUI of the software

- LPMS-INC1 sensor × 1
- User guide card  $\times 1$
- Cable  $\times 1$
- Box x 1
- Warranty (1 Year)

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