

NexBot Drives 342-002 Vibration Sensor

**NexBot
Robotics**

SKU: NXB-SNS-342-002 | Category: Sensors & Vision > Temperature & Environment Sensors > Vibration Sensors

Overview

The NexBot Drives 342-002 is a high-performance piezoelectric vibration sensor designed for continuous condition monitoring of industrial robotic systems. This sensor provides precise, real-time data on machinery health, enabling predictive maintenance strategies that reduce unplanned downtime and extend the operational life of critical robot components. Its primary function is to detect subtle changes in vibration patterns that indicate early-stage faults in gearboxes, motors, and other mechanical systems within the robot's structure. Engineered for demanding industrial environments, the 342-002 features a robust 316L stainless steel housing, providing excellent resistance to corrosion and physical impact. Its IP67 rating ensures protection against dust ingress and temporary water immersion, making it suitable for deployment in harsh manufacturing settings. The sensor operates over a broad frequency range from 0.5 Hz to 15 kHz, allowing it to capture a wide spectrum of vibration events, from low-frequency structural imbalances to high-frequency gear mesh anomalies. With a high sensitivity of 100 mV/g, it can detect even minor fluctuations, providing the granularity needed for effective diagnostics. Key applications for this sensor include monitoring the health of primary axis joints (J1, J2, J3) and wrist axes on articulated and collaborative robots. By integrating this sensor into a plant-wide condition monitoring system, maintenance teams can transition from reactive repairs to a proactive, data-driven approach. Early warnings of potential failures allow for scheduled maintenance, minimizing disruption to production lines. The sensor's wide operating temperature range of -50°C to 120°C ensures reliable performance across a variety of industrial processes, from cold storage to high-temperature assembly operations. Installation is straightforward, typically involving mounting the sensor directly to the designated joint housing via a standard stud mount. It provides a standard IEPE/ICP two-wire output, ensuring compatibility with a wide range of data acquisition hardware. By deploying the NexBot Drives 342-002 sensor, facilities can significantly improve robot reliability and asset management.

Technical Specifications

Parameter	Value	Unit
Weight	0.15	kg

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Material	Stainless Steel 316L	
Voltage	18-30VDC	
IP Rating	IP67	
Country of Origin	KR	
Protocol	IO-Link	
Dimensions	25 mm Dia × 65 mm H	

Safety Notice: This product must be installed and operated by qualified personnel in accordance with applicable safety standards (ISO 10218, IEC 61508).