

# NexBot Robotics

## INC142-001 Incremental Encoder 1024 PPR

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**NexBot  
Robotics**

SKU: NXB-SNS-INC142-001 | Category: Drive Systems > Encoders > Incremental Encoders

### Overview

The NexBot Robotics INC142-001 is a high-precision incremental encoder designed to deliver accurate rotational position and velocity feedback for industrial robotic applications. This component is essential for closed-loop control systems, ensuring that robot movements are executed with the highest degree of accuracy and repeatability. Its robust construction and reliable signal output make it suitable for demanding manufacturing environments where uptime and precision are critical. Key to its performance is a resolution of 1024 Pulses Per Revolution (PPR), which allows the robot controller to track joint positions with fine granularity. This level of detail is crucial for tasks such as precision assembly, CNC machine tending, and intricate welding paths, where even minor deviations can impact product quality. The encoder utilizes a standard A/B/Z quadrature output signal. The A and B channels provide directional information, while the Z channel (index pulse) provides a precise reference point once per revolution, allowing for homing sequences and error checking. This proven signaling method offers high noise immunity and straightforward integration with NexBot Robotics servo drives and motion controllers. Engineered for durability, the INC142-001 features a rugged, anodized aluminum housing that provides excellent protection against physical impact and corrosion. With an IP67 rating, the encoder is fully sealed against dust ingress and can withstand temporary immersion in water, making it ideal for use in environments with coolants, washdown procedures, or high particulate levels. This robust design minimizes downtime and maintenance requirements associated with component failure in harsh conditions. The encoder operates on a flexible supply voltage range of 5-24VDC, ensuring compatibility with a wide variety of industrial control systems and power supplies. It features a standard 8mm hollow shaft design, allowing for direct and secure mounting onto motor shafts, reducing mechanical complexity and potential points of failure. Installation is streamlined through a standardized mounting flange and connector interface, ensuring it can be integrated as a direct replacement part for specified NexBot Robotics systems. This component is a core element in maintaining the positioning accuracy of articulated and collaborative robot arms, directly contributing to operational efficiency and consistent production quality.

## Technical Specifications

Parameter	Value	Unit
Weight	0.25	kg
Material	Anodized Aluminum	
Voltage	5-24VDC	
IP Rating	IP67	
Country of Origin	SE	
Protocol	PROFINET	
Dimensions	58 x 58 x 52 mm	

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