NexBot Drives INC142-014 Incremental Encoder

NexBot Robotics

SKU: NXB-SNS-INC142-014 | Category: Drive Systems > Encoders > Incremental Encoders

Overview

The NexBot Drives INC142-014 is a high-precision incremental encoder designed to provide reliable speed and position feedback for servo systems in industrial robotics. This component is essential for applications requiring accurate joint articulation and motion control, ensuring that robot movements are precise and repeatable. Its primary function is to translate the mechanical rotation of a motor shaft into electrical signals that a robot controller can interpret. The key feature of the INC142-014 is its high resolution of 4096 Pulses Per Revolution (PPR). This level of detail allows for exceptionally fine control over joint positioning and velocity, which is critical for tasks such as welding, assembly, and material handling where precision is paramount. The encoder outputs standard A/B/Z quadrature signals. The A and B channels provide directional information, while the Z channel (index pulse) provides a once-per-revolution reference point, enabling accurate homing sequences and error checking. Constructed for demanding industrial environments, the encoder features a durable anodized aluminum housing and is sealed to an IP65 rating. This ensures protection against dust ingress and low-pressure water jets from any direction, making it suitable for facilities with airborne particulates or washdown procedures. Its wide operating voltage range of 5-24VDC offers excellent electrical compatibility with a variety of robot control systems and servo drives. The solid shaft design ensures a secure and direct coupling to the motor, minimizing mechanical backlash and improving signal integrity. Installation is straightforward, intended for direct mounting onto the motor shaft of compatible robot joints. Regular maintenance is minimal, focused primarily on ensuring the integrity of the electrical connection and the security of its mounting.

Technical Specifications

Parameter	Value	Unit
Weight	0.35	kg
Material	Anodized Aluminum	
Voltage	5-24VDC	
IP Rating	IP65	
Country of Origin	US	
Protocol	PROFINET	
Dimensions	58 x 58 x 50 mm	

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