

NexBot Robotics INC142-005 Incremental Encoder, 8192 PPR

NexBot
Robotics

SKU: NXB-SNS-INC142-005 | Category: Drive
Systems > Encoders > Incremental Encoders

Overview

The NexBot Robotics INC142-005 is a high-resolution incremental encoder designed to provide precise and reliable position feedback for servo motors in demanding industrial robotics applications. This component is essential for achieving the high levels of accuracy and repeatability required in modern automated manufacturing, converting mechanical rotation into digital signals that the robot's motion system can interpret. The core of the INC142-005 is its optical system, which delivers a resolution of 8192 Pulses Per Revolution (PPR). This high pulse count enables exceptionally fine control over joint movement, resulting in smoother motion paths and more accurate final positioning of the robot arm. This precision is critical for applications such as automated welding, intricate assembly, and high-tolerance material handling. The encoder provides standard Quadrature (A/B) signals along with an Index (Z) pulse for homing and reference positioning, ensuring seamless integration with NexBot Robotics drive systems. Built for industrial environments, the encoder is housed in a durable, anodized aluminum body and carries an IP67 rating. This level of ingress protection ensures it is fully protected against dust and can withstand temporary immersion in water, making it suitable for use in facilities with cutting fluids, wash-down procedures, or high particulate levels. Its ability to operate reliably at speeds up to 6,000 RPM allows it to be paired with high-performance servo motors without compromising signal integrity. Installation is streamlined thanks to its industry-standard form factor, featuring a 10 mm solid shaft and compact housing dimensions. It is engineered as a direct replacement part for specified joints on several NexBot Robotics platforms, minimizing downtime during maintenance cycles. By delivering consistent and accurate positional data, the INC142-005 encoder plays a vital role in the overall performance, safety, and reliability of the robotic system.

Technical Specifications

Parameter	Value	Unit
Weight	0.35	kg
Material	Anodized Aluminum	
Voltage	24VDC	
IP Rating	IP67	
Country of Origin	US	

Parameter	Value	Unit
Protocol	Quadrature (A/B/Z), TTL/HTL	
Dimensions	58 x 58 x 75 mm	

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