

NexBot Robotics ABS141-005 Absolute Encoder 24-Bit BiSS- C

NexBot
Robotics

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Systems > Encoders > Absolute Encoders

Overview

The NexBot Robotics ABS141-005 is a high-resolution absolute encoder designed to deliver precise and reliable position feedback for critical robotic joint applications. This component is essential for maintaining the accuracy and repeatability of NexBot robotic systems, ensuring consistent performance in high-stakes manufacturing and automation environments. Engineered for durability, the ABS141-005 features a rugged, anodized aluminum housing with an IP67 rating, making it fully protected against dust ingress and resistant to water immersion. This robust construction ensures long-term operational stability even in harsh industrial settings characterized by contaminants and moisture. The core of its performance lies in its exceptional 24-bit single-turn resolution, which allows for extremely fine control over joint positioning. This level of detail is critical for applications such as precision assembly, intricate welding paths, and high-accuracy pick-and-place operations where even minor deviations can impact product quality. The encoder communicates via the BiSS-C serial protocol, a high-speed, bidirectional interface that provides real-time position data with minimal latency. This fast and secure data transmission is vital for dynamic motion control, enabling smoother arm movements and reducing cycle times. With a position accuracy of ± 25 arcseconds, the ABS141-005 provides the fidelity required for tasks demanding the highest level of precision. Installation is straightforward, as the encoder is designed as a direct-fit replacement for specified joints on compatible NexBot robot models, minimizing downtime during maintenance or repair procedures. By providing immediate and accurate absolute position data upon power-up, it eliminates the need for homing cycles, further enhancing operational efficiency.

Technical Specifications

Parameter	Value	Unit
Weight	0.35	kg
Material	Anodized Aluminum	
Voltage	24VDC	
IP Rating	IP67	
Country of Origin	IT	
Protocol	BiSS-C	

Parameter	Value	Unit
Dimensions	58 x 58 x 42 mm	

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