

# NexBot Drives

## ABS141-002 Absolute Encoder

NexBot  
Robotics

SKU: NXB-SNS-ABS141-002 | Category: Drive Systems > Encoders > Absolute Encoders

### Overview

The NexBot Drives ABS141-002 is a high-performance absolute encoder designed to provide precise and reliable position feedback for demanding industrial robotics applications. This component is essential for ensuring accurate joint articulation, enabling robots to perform complex tasks with high repeatability. Its primary function is to report the exact angular position of a robot joint at all times, even after a power cycle, eliminating the need for a homing sequence and reducing startup times. The core of the ABS141-002 is its advanced optical sensing system, which delivers a single-turn resolution of 22 bits. This high level of granularity translates directly into smoother motion profiles and superior positioning accuracy, which is critical for applications such as arc welding, precision assembly, and material handling where path-following is paramount. The encoder communicates over the BiSS-C open protocol, providing fast, secure, and bidirectional data transmission, allowing for real-time diagnostics and parameter adjustments from the main robot control system. Built for harsh industrial environments, the encoder is housed in a compact, anodized aluminum body and carries an IP67 rating. This ensures it is fully protected against dust ingress and can withstand temporary immersion in water, making it suitable for deployment in facilities with exposure to coolants, particulates, or washdown procedures. The unit operates on a standard 24VDC power supply, simplifying integration into existing control cabinets and electrical systems. Installation is straightforward, with a standard synchro flange and shaft design compatible with many NexBot Robotics servo systems. This encoder is a critical component for maintaining the operational accuracy and reliability of compatible robot arms, ensuring consistent performance over the life of the asset.

### Technical Specifications

Parameter	Value	Unit
Weight	0.35	kg
Material	Anodized Aluminum	
Voltage	24VDC	

Parameter	Value	Unit
IP Rating	IP67	
Country of Origin	KR	
Protocol	BiSS-C	
Dimensions	58 x 58 x 45 mm	

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