

NexBot Drives ABS141-006

Absolute Encoder

NexBot
Robotics

SKU: NXB-SNS-ABS141-006 | Category: Drive
Systems > Encoders > Absolute Encoders

Overview

The NexBot Drives ABS141-006 is a high-performance absolute encoder designed to provide precise, real-time position feedback for industrial robot joints and other automated machinery. This component is critical for applications demanding high accuracy and repeatability, ensuring that the robot arm's position is known at all times, even after a power cycle, eliminating the need for a homing sequence and reducing startup times. The core of the ABS141-006 is its advanced optical sensing technology, which delivers a true 24-bit single-turn resolution. This level of granularity allows for exceptionally fine control over joint movements, which is essential for tasks such as intricate welding paths, high-tolerance component assembly, and detailed surface finishing. The encoder communicates via the BiSS-C open-source protocol, enabling high-speed, synchronous data transmission directly to the robot's motion controller. This minimizes latency and ensures the control system has immediate access to accurate position data, improving dynamic performance and overall system safety. Engineered for reliability in demanding industrial settings, the ABS141-006 features a rugged, anodized aluminum housing that provides excellent protection against mechanical shock and vibration. It is sealed to an IP67 rating, making it fully dust-tight and capable of withstanding temporary immersion in water. This ensures consistent operation in environments with dust, cutting fluids, or frequent washdowns. The compact, standardized form factor and shaft design facilitate straightforward integration into various NexBot robot joint assemblies, serving as a direct replacement part or for system upgrades. Proper installation ensures the integrity of the drive system's positioning loop, directly contributing to the robot's overall performance and the quality of the finished product.

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 45 mm	

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