

NexBot Vision

STP113-003 Stepper

Motor 3.0 Nm

NexBot
Robotics

SKU: NXB-SRV-STP113-003 | Category: Drive
Systems > Servo Motors > Stepper Motors

Overview

The NexBot Vision STP113-003 is a high-performance stepper motor engineered for precise, reliable motion control in demanding industrial robotics environments. This motor provides accurate open-loop positioning, making it an economical and dependable solution for a wide range of automated tasks. Its primary function is to convert digital pulses into precise mechanical shaft rotations, enabling controlled movement without complex feedback mechanisms. The key feature of the STP113-003 is its high holding torque of 3.0 Nm, which allows it to hold a load steady against external forces, ensuring axis stability and positional accuracy even when the motor is stationary. This is critical for applications where the robot arm must maintain a fixed position during a process. With a standard 1.8° step angle (200 steps per revolution), the motor delivers fine, repeatable positioning resolution suitable for intricate assembly, material handling, and pick-and-place operations. The robust internal design is optimized for high-speed microstepping, resulting in smoother, quieter operation and reduced resonance across its operational range. Constructed with a durable anodized aluminum body, this stepper motor is designed for longevity and effective thermal management. The housing efficiently dissipates heat, allowing the motor to operate at its peak performance during continuous duty cycles without overheating. This thermal stability contributes to a longer operational life and consistent performance. The STP113-003 is built to standard NEMA 23 frame specifications, ensuring straightforward mechanical integration with existing designs and NexBot robotics systems. Typical applications include driving wrist axes (J4-J6) on smaller articulated robots, auxiliary axes for tooling, or primary axes on collaborative and SCARA robots where precise, incremental motion is paramount. Installation is simplified by the standardized mounting pattern and shaft dimensions.

Technical Specifications

Parameter	Value	Unit
Weight	1.2	kg
Material	Anodized Aluminum	

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Voltage	24-48VDC	
IP Rating	IP40	
Country of Origin	JP	
Dimensions	57 x 57 x 113 mm	
Torque	3.0 Nm	

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