

User Manual: NexBot Vision AC111-011 Ac Servo Motor 1.1 kW

SKU: NXB-SRV-AC111-011 | Version: 1.0 | Brand: NexBot Robotics

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1. Safety Information

READ ALL SAFETY INSTRUCTIONS BEFORE OPERATION. Failure to follow safety procedures may result in serious injury or equipment damage.

DANGER: Isolate all hazardous energy before servicing NexBot Vision AC111-011 Ac Servo Motor 1.1 kW; stored electrical or mechanical energy may remain present after shutdown.

WARNING: Operate NXB-SRV-AC111-011 only within its intended Drive Systems > Servo Motors > AC Servo Motors duty profile and published specification limits.

CAUTION: Use only approved tools, mating parts, and installation hardware to prevent premature wear or unsafe operation.

NOTICE: Protect the product from contamination, impact, and environmental exposure beyond IP65 during installation and service.

2. Product Overview

The NexBot Vision AC111-011 is a high-precision AC servo motor engineered for reliable, dynamic performance in industrial automation and robotics applications.

This motor is specifically designed to meet the rigorous demands of multi-axis motion control, providing the power and accuracy required for complex tasks. Its primary use is as a direct replacement or for new system integrations within compatible NexBot Robotics platforms. Key features include a high-torque-density design, which allows for a compact footprint without sacrificing power output. This is critical for designing smaller, more efficient robot arms. The motor's construction minimizes cogging torque, resulting in exceptionally smooth motion and velocity control, which is essential for applications like arc welding, dispensing, and high-gloss finishing. With a rated speed of 3000 RPM, the AC111-011 enables rapid cycle times and increased throughput. The integrated high-resolution 24-bit absolute encoder provides precise feedback for closed-loop control, ensuring accurate positioning and path-following. Built for industrial environments, the motor features a rugged housing with an IP65 rating, protecting it from dust ingress and low-pressure water jets from any direction. This ensures long-term reliability in challenging factory conditions. Its thermal design promotes efficient heat dissipation, allowing for continuous operation under heavy loads without performance degradation. Common applications include material handling, machine tending, automated assembly, and pick-and-place operations where speed and precision are paramount. The standardized mounting flange and connectors simplify installation and reduce downtime during maintenance or replacement procedures, making it a dependable component for any automation system.

3. Getting Started

1. Confirm product identity

Verify the installed item is NexBot Vision AC111-011 Ac Servo Motor 1.1 kW with SKU NXB-SRV-AC111-011. Cross-check the unit against project documentation before applying power or connecting it to the host system.

2. Review operating context

Understand how the product is used within the Drive Systems > Servo Motors > AC Servo Motors workflow, including any upstream and downstream dependencies, service intervals, and operator responsibilities.

3. Complete initial startup

Power up the unit under controlled conditions, observe indicator states, and verify the product initializes cleanly with the expected 400VAC operating setup.

4. Operation

Normal operation

Run NexBot Vision AC111-011 Ac Servo Motor 1.1 kW within the documented workload, environmental, and service conditions. Track alarms, unusual noise, heat, or vibration so corrective action can be scheduled before unplanned downtime occurs.

Interface and controls

Use the supported electrical and control interfaces to commission, monitor, and troubleshoot the device. Validate all signal mappings and control behavior after maintenance or part replacement, especially where PROFINET communication is required.

Tip: Capture a baseline of healthy status indicators after commissioning so later diagnostics can be compared quickly.

Load and application limits

Keep the product within the published ratings for speed, force, load, and environmental exposure. Where applicable, confirm mounting, routing, and attached tooling do not compromise access, cooling, or serviceability.

Change management

Whenever hardware, firmware, wiring, or connected tooling changes, repeat the relevant verification and commissioning checks before returning the equipment to production service.

Tip: Update maintenance records immediately after any wiring, parameter, or parts change.

Maintenance Schedule

Interval	Task	Notes
Daily	Inspect NexBot Vision AC111-011 Ac Servo Motor 1.1 kW for visible wear, damage, contamination, loose hardware, and abnormal status indicators.	Record any abnormalities before the next production cycle begins.
Monthly	Verify mounting integrity, connector condition, and cable routing or strain relief points.	Retorque or reseal hardware only to the documented service specification.
Quarterly	Review diagnostic logs, event history, and operational trends for early signs of degradation.	Escalate recurring warnings before they develop into hard faults.
Annually	Perform a full service inspection covering mechanical condition, electrical connections, and functional verification.	Coordinate annual service with planned downtime to minimize production disruption.

Troubleshooting

Symptom	Possible Cause	Solution
Unit does not initialize or remain ready	Incoming supply, controls wiring, or commissioning parameters do not match the documented 400VAC configuration.	Verify power quality, wiring continuity, protective devices, and startup parameters before restarting the unit.
Intermittent communication or status loss	Loose connectors, damaged cabling, or	Inspect physical connections, confirm interface settings, and

Symptom	Possible Cause	Solution
	interface mismatch on PROFINET.	replace damaged cables or connectors as needed.
Unexpected wear, vibration, or overheating	Mechanical loading, contamination, misalignment, or duty cycle exceeds the intended application conditions.	Inspect the installation, restore proper alignment and cooling, and verify the product is being used within its published operating limits.
Connected equipment performance is inconsistent	The installed product is not configured correctly for the host system or compatible robot series (R-20, R-50, S-5).	Validate the configuration, confirm compatibility, and rerun the functional verification procedure after any corrections.

7. Technical Specifications

Parameter	Value	Unit
Weight	4.2	kg
Material	Anodized Aluminum	
Voltage	400VAC	
IP Rating	IP65	
Country of Origin	IT	
Protocol	PROFINET	
Dimensions	130 x 130 x 215 mm	
Torque	5.2 Nm	