

# User Manual: NexBot Robotics STD031-001 SCARA Robot 5kg Payload 550mm Reach

SKU: NXB-ROB-STD031-001 | 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.

## 2. Product Overview

The NexBot Robotics STD031-001 is a four-axis SCARA robot engineered for high-speed, high-precision automation in constrained workspaces. This robot excels in applications requiring rapid and repeatable point-to-point movements, such as electronics assembly, packaging, and material handling. Its robust construction ensures reliable performance in demanding industrial environments, operating 24/7 with minimal downtime. The key to its performance is a combination of powerful, low-inertia motors and advanced motion control algorithms. Its 5 kg payload capacity makes it suitable for handling a wide range of small to medium-sized components, from electronic circuit boards to consumer goods. A horizontal reach of 550 mm provides a substantial work envelope for tasks like packaging, sorting, and machine tending, while maintaining a compact footprint that allows for flexible cell design and easy integration into existing production lines. Exceptional point repeatability of  $\pm 0.01$  mm ensures consistent and accurate placement, which is critical for intricate assembly operations and quality control inspections where precision is paramount. Designed for ease of integration, the STD031-001 robot features a compact mounting base and streamlined

internal cabling, reducing interference and simplifying installation. The robot's architecture is optimized for rapid acceleration and short cycle times, significantly increasing throughput in high-volume production lines. Common applications include screw driving, dispensing, parts inspection, and kitting. Its combination of speed, precision, and payload capacity provides a versatile automation solution for manufacturers looking to improve productivity and product quality.

### 3. Getting Started

### 4. Operation

### 5. Maintenance Schedule

Interval	Task	Notes
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### 6. Troubleshooting

Symptom	Possible Cause	Solution
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### 7. Technical Specifications

Parameter	Value	Unit
Weight	28.0	kg
Material	Cast Aluminum Alloy	
Voltage	200-240VAC Single Phase	
IP Rating	IP54	
Country of Origin	IT	
Protocol	EtherCAT	
Dimensions	200 x 200 x 650 mm	
Reach	550 mm	
Payload	5 kg	
Axes	4	
Repeatability	±0.01 mm	