

# NexBot Robotics SD131-005 400V Single-Axis Servo Drive

## NexBot Robotics

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> Servo Drives > Single-Axis Servo Drives

### Overview

The NexBot Robotics SD131-005 is a compact, high-performance single-axis servo drive engineered for precise motion control in demanding industrial automation applications. This drive translates commands from the robot controller into the high-power current required to actuate a servo motor, forming the core of the robot's motion system. Its primary function is to ensure accurate positioning, velocity, and torque for a single robot joint. The SD131-005 features advanced control algorithms, including real-time auto-tuning and vibration suppression, which significantly reduce commissioning time and improve the dynamic response of the robotic arm. This results in smoother paths, higher accuracy, and reduced cycle times for tasks such as assembly, welding, and material handling. The drive's compact design, with dimensions of 210 x 75 x 180 mm, allows for high-density mounting within control cabinets, saving valuable floor space. Engineered for versatility, this servo drive operates on a 400-480VAC (3-Phase) power supply, making it suitable for a wide range of industrial environments globally. Safety is paramount in modern robotics, and the SD131-005 includes an integrated Safe Torque Off (STO) function (SIL 3, PLe), which simplifies the implementation of emergency stop systems without requiring external contactors. Installation is streamlined through user-friendly configuration software and clear diagnostic LEDs on the front panel, which provide instant status feedback. The robust die-cast aluminum housing ensures effective heat dissipation for reliable operation under continuous load. This servo drive is a direct replacement component for specific joints on several NexBot Robotics platforms, ensuring seamless integration and restoration of original performance specifications.

### Technical Specifications

Parameter	Value	Unit
Weight	2.1	kg
Material	Die-cast Aluminum	
Voltage	400-480VAC (3-Phase)	
IP Rating	IP20	
Country of Origin	IT	
Protocol	EtherCAT	
Dimensions	210 x 75 x 180 mm	

Parameter	Value	Unit
Torque	5 Nm	

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