

# NexBot Robotics 212-005 SIL 3 Safety Controller

NexBot  
Robotics

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## Overview

The NexBot Robotics 212-005 Safety Controller is a dedicated safety-rated processing unit designed to monitor and manage all safety-related functions within an automated robotic cell. This controller serves as the core of your system's safety architecture, ensuring rapid and reliable response to any hazardous conditions to protect both personnel and equipment. Its primary function is to process inputs from safety devices such as emergency stop buttons, light curtains, and safety gate switches, and in turn, control safety-related outputs to bring the robotic system to a safe state. Key features include certification to SIL 3 (IEC 62061) and Performance Level 'e' (ISO 13849-1), providing a high level of functional safety assurance required for modern industrial applications. The unit is built on a dual-channel, redundant architecture, which ensures that a single fault in any safety circuit does not lead to a loss of the safety function. With a rapid response time of under 10 ms, the controller can initiate a safe stop command almost instantaneously upon detection of a safety breach. This controller is equipped with 24 configurable digital safety inputs and 8 safety outputs, offering substantial flexibility for integrating a wide range of safety devices. Communication is streamlined via its integrated EtherCAT FSoE (FailSafe over EtherCAT) interface, which simplifies wiring and allows for seamless integration with the primary robot controller and other networked devices. The 212-005 is ideal for applications including robotic welding, automated assembly, high-speed pick-and-place, and collaborative workspaces where robust safety monitoring is paramount. Installation is straightforward, with a compact design intended for standard DIN rail mounting inside the main control cabinet. Configuration is performed through our intuitive safety programming software, allowing for logical function block programming to tailor the safety logic to specific application needs.

## Technical Specifications

Parameter	Value	Unit
Weight	0.8	kg
Material	ABS/Polycarbonate Blend	
Voltage	24VDC	
IP Rating	IP20	
Country of Origin	SE	
Protocol	EtherCAT FSoE	

Parameter	Value	Unit
Dimensions	150 x 110 x 75 mm	

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