

NexBot Safety 531-012 M12 8-Pin Circular Connector

**NexBot
Robotics**

SKU: NXB-CBL-531-012 | Category: Cables & Connectors > Connectors > Circular Connectors

Overview

The NexBot Safety 531-012 is a high-performance M12 circular connector designed for robust and reliable connections in demanding industrial automation environments. This connector provides a secure interface for safety circuits, sensors, and I/O modules, ensuring consistent uptime and operational integrity for robotic systems. Engineered for durability, the 531-012 features a nickel-plated brass housing that offers excellent corrosion resistance and mechanical strength. Its key benefit is the IP67-rated seal, which provides complete protection against dust ingress and temporary water immersion. This makes the connector suitable for use in facilities with high levels of particulate matter, moisture, or frequent washdown procedures. The threaded coupling mechanism ensures a vibration-proof connection, which is critical for components mounted on moving robot arms or in high-vibration zones. The 8-pin configuration offers versatility for transmitting both power and complex data signals simultaneously, making it a standard choice for modern safety-rated devices and fieldbus communications. With a rated voltage of 24VDC, it aligns with standard control system power requirements. Its compact M12 form factor allows for installation in space-constrained areas without compromising performance. Typical applications include connecting safety light curtains, emergency stop buttons, non-contact safety switches, and various sensors to the robot controller's safety I/O. Proper installation involves mating the male and female ends and tightening the coupling nut to the recommended torque to ensure the IP67 seal is engaged. Regular inspection for housing integrity and pin cleanliness is recommended as part of a standard preventative maintenance schedule.

Technical Specifications

Parameter	Value	Unit
Weight	0.05	kg
Material	Nickel-Plated Brass	
Voltage	24VDC	
IP Rating	IP67	
Country of Origin	US	
Protocol	PROFINET	
Dimensions	48 x 15 x 15 mm	

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