

NexBot Robotics 322-016 3D Vision Camera 5MP Resolution

NexBot Robotics

SKU: NXB-SNS-322-016 | Category: Sensors & Vision
> Vision Systems > 3D Vision Cameras

Overview

The NexBot Robotics 322-016 is a high-performance 3D vision camera engineered to provide detailed spatial data for advanced robotic automation systems. This device enables robots to perceive and interact with their environment in three dimensions, unlocking capabilities for complex tasks that are difficult or impossible with traditional 2D vision. At its core, the 322-016 utilizes advanced structured light technology, projecting a precise pattern onto an object to calculate depth and surface geometry with high accuracy. Combined with a 5.0-megapixel imager, the camera captures dense, high-quality point clouds, resolving fine details critical for small part handling, intricate assembly verification, and metrology-grade quality control. This high-fidelity data acquisition ensures reliable object recognition and orientation detection, which directly translates to improved pick-and-place success rates and reduced cycle times. The camera features a powerful onboard processing unit that handles point cloud generation and initial data filtering internally. This architecture significantly reduces the computational burden on the main robot controller, resulting in lower system latency and faster decision-making for the robot. Integration is streamlined through a standard Gigabit Ethernet interface, providing high-bandwidth data transfer and compatibility with established industrial communication protocols. Designed for resilience in demanding factory settings, the 322-016 is enclosed in a rugged, anodized aluminum housing that carries an IP67 rating. This level of protection ensures the internal optics and electronics are safeguarded against dust ingress and temporary immersion in water, making the camera suitable for environments with exposure to coolants, particulates, and washdown procedures. Typical applications include random bin picking, automated quality inspection, complex depalletizing, and real-time guidance for dispensing, welding, or machining processes. Its robust construction and reliable performance provide a dependable vision solution for modern manufacturing.

Technical Specifications

Parameter	Value	Unit
Weight	1.2	kg
Material	Anodized Aluminum 6061-T6	
Voltage	24VDC	
IP Rating	IP67	

Parameter	Value	Unit
Country of Origin	IT	
Protocol	Gigabit Ethernet	
Dimensions	155 x 92 x 65 mm	

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